

Gate Burton Energy Park Environmental Statement

Volume 3, Appendix 13-Ea: Framework Construction Traffic Management Plan
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Table of Contents

1.	Introduction	1
1.1	Context.....	1
1.2	Document Purpose and Scope	1
1.3	Objectives.....	2
1.4	Report Structure.....	2
2.	Existing Conditions	4
2.1	Site Location.....	4
2.2	Surrounding Area	4
2.3	Site Accessibility	4
3.	Future Highway Network	7
3.1	Future Network Changes.....	7
3.2	Cumulative Developments.....	7
4.	Policy and Best Practice	9
4.1	National Policy	9
4.2	Local Planning Policy	10
5.	Construction Movements	12
5.1	Introduction.....	12
5.2	Construction Programme.....	12
5.3	Construction Vehicle Movements	12
5.4	Vehicle Types.....	19
5.5	Plant Requirements.....	19
5.6	Abnormal Vehicles	20
6.	Site Access, Layout and Routing	22
6.1	Introduction.....	22
6.2	Solar and Energy Storage Park	22
6.3	Grid Connection Corridor.....	28
7.	Management and Mitigation	32
7.1	Introduction.....	32
7.2	Highway Network.....	32
7.3	Pedestrian and Cycle Routes	33
7.4	Management Measures and Controls.....	33
7.5	Staff Vehicle Measures and Controls.....	36
7.6	Cottam and West Burton solar projects and Gate Burton Energy Park Combined Mitigation.....	39
7.7	Management Structure	39
7.8	Monitoring and Review	40
8.	Compliance and Enforcement	42
8.1	Introduction.....	42
8.2	Best Practice.....	42
8.3	Contractual Conditions	42
8.4	Information Packs and Communications	42
8.5	Enforcement	43
9.	Conclusion	44
Annex A.	Proposed Site Access Layouts, Visibility Splays and Swept Paths (Solar and Energy Storage Park).....	45
Annex B.	Proposed Site Access Layouts, Visibility Splays and Swept Paths (Grid Connection Corridor).....	46
Annex C.	Abnormal Vehicles Route Access Swept Paths (Grid Connection Corridor).....	47
Annex D.	Abnormal Vehicles Route Access Survey (Solar and Energy Storage Park)	48

Tables

Table 1 Forecast Trip Distribution (Construction Accesses) for Solar and Energy Storage Park.....	14
Table 2 Forecast Peak Daily Construction Vehicles for Solar and Energy Storage Park	14
Table 3 Forecast Peak Daily and Hourly Construction Movements for Solar and Energy Storage Park.....	15
Table 4 Forecast Peak Daily and Hourly Construction Movements for Grid Connection Corridor	18
Table 5 Desirable Minimum SSDs based on Design Speed	25
Table 6 SSDs for Proposed Solar and Energy Storage Park Access Points (DMRB).....	25
Table 7: SSDs for proposed access points to the Solar and Energy Storage Park (DMRB)	29

1. Introduction

1.1 Context

- 1.1.1 AECOM has been appointed by Gate Burton Energy Park Limited ('the Applicant') to prepare a Framework Construction Traffic Management Plan (CTMP) in support of the proposed Gate Burton Energy Park ('the Scheme'), located approximately 4km to the south of Gainsborough, Lincolnshire. This Framework CTMP forms **Appendix 13-E** of the **Environmental Statement (ES)**.
- 1.1.2 The Order limits are split across the two administrative areas of Lincolnshire County Council (LCC) and Nottinghamshire County Council (NCC), primarily consisting of agricultural fields mainly under arable production, with some small parcels of pasture, interspersed with trees, hedgerows, small areas of woodland and farm access tracks.
- 1.1.3 The Scheme comprises the construction, operation (maintenance), and decommissioning of a solar photovoltaic (PV) array electricity generating facility and electrical storage facility with a total capacity exceeding 50 megawatts (MW) and export connection to the National Grid at the Cottam National Grid Substation. The Site comprises the proposed Solar and Energy Storage Park and the Grid Connection Corridor.
- 1.1.4 The electricity generated by the Scheme will be exported to the National Grid via the Grid Connection Corridor, via a connection between the Gate Burton Energy Park Substation and the Cottam National Grid Substation. This connection will also facilitate the import of electricity to be stored within the Battery Energy Storage System (BESS).

1.2 Document Purpose and Scope

- 1.2.1 The purpose of this Framework CTMP is to focus on the management of construction traffic within the vicinity of the Site along the local highway network during the construction period of the works, in order to limit any potential disruptions and implications on the wider transport network.
- 1.2.2 This Framework CTMP sets out the proposals to manage construction traffic and staff vehicles during the construction of the Scheme. It identifies the management of freight traffic i.e. Heavy Goods Vehicles (HGVs), as well as staff vehicles.
- 1.2.3 This Framework CTMP has been informed by consultation with Lincolnshire County Council (LCC) and Nottinghamshire County Council (NCC) as the local highway authorities. Further details of the discussions and meetings held, as well as meeting minutes etc. are provided as part of the Transport Assessment (TA) which forms **Appendix 13-D** of **ES Volume 3 [EN010131/APP/3.3]**.
- 1.2.4 It should be noted that as this is a framework document, certain details remain to be developed as the Scheme progresses into the detailed design

stage. The full details of all measures may not be available until after consent for the Scheme has been granted. A Detailed CTMP or potentially a number of Detailed CTMPs will be required to be produced by the Applicant prior to commencement of construction of the Scheme, which would be secured as part of the DCO post-consent.

1.3 Objectives

1.3.1 The objectives of this Framework CTMP are to set a framework for the measures that would be developed in the Detailed CTMP(s) to:

- Minimise the volume of HGV and staff vehicles associated with the construction phase as far as reasonably practicable;
- Maximise the safe and efficient movement of materials and staff required during the construction phase as far as reasonably practicable;
- Minimise the restrictions imposed and ensure efficient management of the local PRoW within the Site during the construction phase;
- Minimise the impacts both for the local community and visitors to the area using the road network as far as reasonably practicable; and
- Set out the measures to be adhered to by those travelling to and from the Site to reduce the impact of the construction of the Scheme.

1.4 Report Structure

1.4.1 Following this introduction, this Framework CTMP is structured as follows:

- **Section 2** provides details of the site location, surrounding area and the existing highway network;
- **Section 3** provides details of future baseline conditions during the construction phase;
- **Section 4** covers relevant planning policy and best practice for the construction phase of the Scheme;
- **Section 5** summarises the HGV and staff vehicle movements which are expected to be generated by the Scheme across the construction period, including during the peak phase;
- **Section 6** provides details of the proposed site accesses for the Solar and Energy Storage Park and the Grid Connection Corridor, including details of layouts, visibility splays and swept paths, as well as routing arrangements and internal site layout considerations including access tracks, compounds and parking;
- **Section 7** summarises the proposed measures to manage the highway network and pedestrian and cycle routes during the construction phase, as well as measures directed at HGVs and staff members, as well as for the management, monitoring and review of the Framework CTMP;
- **Section 8** deals with compliance and enforcement of the Framework CTMP; and

- **Section 9** provides the conclusion to the Framework CTMP.

2. Existing Conditions

2.1 Site Location

- 2.1.1 The Scheme is located within the administrative areas of West Lindsey and Bassetlaw, within the counties of Lincolnshire and Nottinghamshire respectively. The Order limits are located to the south of Gainsborough and primarily consists of agricultural fields mainly under arable production, with some small parcels of pasture, interspersed with trees, hedgerows, small areas of woodland and farm access tracks.
- 2.1.2 The Solar and Energy Storage Park is located to the north of the Site and the proposed Grid Connection Corridor is located at the south-western extent of the Site. The site location is shown on **ES Volume 2: Figure 13-1 [EN010131/APP/3.2]**.

2.2 Surrounding Area

- 2.2.1 The landscape features immediately surrounding the Site comprises a number of villages, including Knaith and Knaith Park to the northwest of the Site and Willingham by Stow to the east. Marton is located west of the centre of the Site. At the southern extent of the Site is the Cottam National Grid Substation. At the south west of the Site is the village of Rampton. Further afield, the town of Gainsborough is located circa. 5km to the north of the Site, and the junction of the A156 with the A57 is some 8km to the south.
- 2.2.2 The A156 is a north-south route from Gainsborough to the junction of the A57 and passes through the Site. The nearest east-west routes are the A57 from Markham Moor to Lincoln, and the A631 route which passes through Gainsborough links Bramley with Glentham, with onward connections to Doncaster and Sheffield in the west, and Lincoln to the east.
- 2.2.3 There is an extensive network of Public Rights of Way (PRoW) both within the Site and across the surrounding area. Further details of these are set out within Section 4 of the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**) and the **Outline PRoW Management Plan [EN010131/APP/7.8]**.

2.3 Site Accessibility

Strategic Highway Network

- 2.3.1 The A1(M) is a dual carriageway road which forms part of the trunk road network and is managed by National Highways. The A1(M) can be accessed via the A614 Blyth Interchange, A638, A631 and A156 Gainsborough Road to the north or via the A57, Markham Moor Interchange and A156 Gainsborough Road to the south.
- 2.3.2 The A614 is a single carriageway road which links the A1(M) to the A638 which runs north to Doncaster. The A614 is classified by the Department of Transport (DfT) as part of the Major Road Network (MRN) and provides

access to the A631, which joins with A631 to the northwest and provides access to A156 from the north.

- 2.3.3 The A57 is a single carriageway road which links the A1(M) to the A46 to the west of Lincoln. The A57 is classified by the DfT as part of the MRN and provides access to the A156 from the south. The A57 also provides access to Laneham Road, which joins with Rampton Road and provides access to Cottam Road from the south.
- 2.3.4 The surrounding highway network is shown on **ES Volume 2: Figure 13-4 [EN010131/APP/3.2]**.

Local Highway Network

Solar and Energy Storage Park

- 2.3.5 The A156 High Street/ Gainsborough Road runs north-south, bordering the Solar and Energy Storage Park to the west between and including its junctions with the A631/ A159 within Gainsborough to the north and the A57 to the southwest of Saxilby to the south.
- 2.3.6 The A156 High Street/ Gainsborough Road is a single carriageway road connecting with the A57 to the west of Saxilby in the south and with the A631/ A159 in Gainsborough to the north. The road is subject to the National Speed Limit (60mph) and does not contain pedestrian footways or street lighting provision, which is in keeping with their rural character. In the vicinity of Marton, to the south of the Solar and Energy Storage Park, the A156 High Street is restricted to 30mph and some pedestrian footways and street lighting provision are provided.
- 2.3.7 The B1241 runs both north-south and east-west, to the north and east of the Solar and Energy Storage Park between and including its junctions with the B1241 Kexby Lane/ Upton Road/ Willingham Road to the north and A1500 Till Bridge Lane to the southeast. The B1241 is a rural single carriageway; the road is subject to a 60mph speed limit and does not contain pedestrian footways or street lighting. There are a number of villages along the B1241 to the east of the Solar and Energy Storage Park including Kexby, Willingham by Stow, Normanby by Stow and Sturton by Stow and as a result the speed limit in the vicinity of, and through these villages is 30mph. In the more rural sections it is subject to a derestricted speed limit in keeping with their rural character.
- 2.3.8 Willingham Road, which becomes Marton Road are both narrow rural roads with passing places along its route; the roads connect to the A156 to the west and B1241 to the east. The two roads provide a physical border to the south and east of the Solar and Energy Storage Park and are subject to a derestricted speed limit. The route has signing stating it is unsuitable for HGV use.
- 2.3.9 Clay Lane is a no-through road single lane track (with passing places) accessed via the A156 to the southwest of the Solar and Energy Storage Park and passing underneath the railway via a relatively narrow and low underpass.

- 2.3.10 The A1500 Stow Park Road/ Marton Road/ Till Bridge Lane runs east-west, to the south of the Solar and Energy Storage Park between and including its junctions with the A156 to the west and the B1241 to the east. In the vicinity of Marton to the west and Sturton by Stow to the east, the road is subject to a 30mph speed limit, in the more rural sections it is subject to a derestricted speed limit in keeping with its rural character.

Grid Connection Corridor

- 2.3.11 The Grid Connection Corridor will run in a southwest direction within the county of Lincolnshire from the Solar and Energy Storage Park, crossing the A1500 Stow Park Road (to the east of Marton), the A156 High Road (to the south of Marton) and the River Trent. The route will then head west into the county of Nottinghamshire connecting to Cottam Power Station, crossing agricultural land as well as Headstead Bank, the disused railway track to the northwest of Cottam, Cow Pasture Lane and Cottam Road at the southern-most extent of the Site. Headstead Bank and Cow Pasture Lane are both narrow, minor, very low trafficked single-track roads with no pedestrian facilities/ street lighting etc.
- 2.3.12 Cottam Road is located between its junction with Rampton Road/ Green Lane to the west and the village of Cottam to the east. Cottam Road is a single carriageway road, with a single lane in each direction and is subject to a derestricted speed limit. Sections of footway exist on Cottam Road around the existing Cottam Power Station access and to the east of the power station running towards Cottam village.
- 2.3.13 Rampton Road is a single carriageway road which connects to Cottam Road and Green Lane at a junction in the north and Laneham Road to the south. Laneham Road connects to Rampton Road in the north and the A57 in the south. Both of the roads are subject to the National Speed Limit (60mph) and do not feature pedestrian footways or street lighting, which is in keeping with their rural character.

Other Transport Modes

- 2.3.14 Details relating to the accessibility of the Site via public transport, cycling and on foot are provided within **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**, and within Section 4 of the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**). It should be noted that the majority of construction workers will be expected to travel to and from the Site by vehicle due to the remote location of the Scheme and lack of easy access to the public transport.

3. Future Highway Network

3.1 Future Network Changes

- 3.1.1 During the construction and operational phases, there are not expected to be any changes to the surrounding highway network within or in close proximity to the Site that should be considered as a result of other projects or schemes. As such, there are no schemes that require consideration during the construction phase beyond the effects associated with cumulative developments.

3.2 Cumulative Developments

- 3.2.1 The cumulative schemes for consideration have been agreed in consultation with LCC and NCC. These schemes, for which development aligns to the peak construction year of 2026, are also set out within **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**. A summary of the schemes that have been considered is set out below, which are also shown on **ES Volume 2: Figure 16-1 [EN010131/APP/3.2]**.

West Burton Solar Project

- 3.2.2 West Burton Solar Project consists of four land parcels and is expected to be constructed over a two-year period (starting in 2024 at the earliest), with a planned grid connection date of 2029. Therefore, whilst West Burton Solar Project may be complete prior to the peak construction phase of the Scheme (2026), there is likely to be some form of overlap.
- 3.2.3 West Burton Solar Project parcels WB1, WB2 and WB3 are all located to the south of the A1500 Till Bridge Lane, towards Sturton-by-Stow, whereas WB4 is located to the south of the A631, to the east of Clayworth. At this stage, it is not anticipated that any construction trips relating to parcel WB4 would pass through the study area for the Scheme and the cumulative assessment within the ES therefore focuses on the trips associated with the other three parcels. Further details of this cumulative development are set out within Section 13.11 of **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**, as well as within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**).

Cottam Solar Project

- 3.2.4 Cottam Solar Project consists of three land parcel sites and is expected to be constructed over a two-year period (starting in 2024 at the earliest), with a planned grid connection date of 2028. Therefore, whilst Cottam Solar Project may be complete prior to the peak construction phase of the Scheme (2026), there is likely to be some form of overlap.
- 3.2.5 Cottam Solar Project parcels C1, C2 and C3 are all located to the west of the A15 between Lincoln and Scunthorpe. At this stage, it is not anticipated that any construction trips relating to parcels C2 (located to the north of A631) and C3 (to the east of A159) would pass through the study area for the Scheme and the cumulative assessment within the ES therefore focusses on

the trips associated with parcel C1 (to the east of B1241). Further details of this cumulative development are set out within Section 13.11 of **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**, as well as within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**).

Shared Grid Connection Corridor

- 3.2.6 The Grid Connection Corridor for the Scheme has the potential to be shared with the Cottam and West Burton solar projects set out above. For the purposes of transport and access, it is considered that a shared Grid Connection Corridor would reduce potential cumulative effects. A joint CTMP could be prepared between the Scheme and the Cottam and West Burton solar projects post-consent to manage and mitigate cumulative effects if necessary once further details are known on project timeframes and the approach for the shared Grid Connection Corridor.
- 3.2.7 Further details relating to the shared Grid Connection Corridor are set out within Section 13.11 of **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**, as well as within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**).

Tillbridge Solar

- 3.2.8 Tillbridge Solar consists of one land parcel and is expected to be constructed over a two-year period (starting in 2025 at the earliest), with a planned operation date of 2027. Therefore, the construction of Tillbridge Solar may coincide with the peak construction phase of the Scheme (2026).
- 3.2.9 Tillbridge Solar is located to the south of the A631, west of the A15 between Lincoln and Scunthorpe. All three proposed access points into the site are expected to be located off the A631. At this stage, it is not anticipated that any construction trips relating to the site would pass through the study area of the Scheme based on the information presented within the Tillbridge Solar EIA Scoping Report (September 2022). The HGV routing for the scheme has not yet been confirmed, however, it is expected that HGVs would be directed from the east via the A15 and onto the A631 due to the close proximity of this part of the highway network route to the site.
- 3.2.10 Further details of this cumulative development are set out within Section 13.11 of **ES Volume 1, Chapter 13: Transport and Access [EN010131/APP/3.1]**, as well as within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**).

4. Policy and Best Practice

4.1 National Policy

Overarching National Policy Statement for Energy (NPS EN-1)

- 4.1.1 The Overarching NPS for Energy (EN-1) was published in 2011 and provides the basis for decisions regarding nationally significant energy infrastructure. Section 5.13 outlines the planning policy for traffic and transport, including guidance on undertaking relevant parts of the EIA. The most relevant paragraphs for this purpose are set out within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**).
- 4.1.2 The NPS EN-1 is currently under review and an updated draft was published for consultation in September 2021. Further details are set out within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**). The key proposed updates in the draft are:
- Paragraph 5.14.4, which states that the assessment should consider any possible disruption to services and infrastructure (such as road, rail and airports); and
 - Paragraph 5.14.8, which states that the Secretary of State (SoS) should only consider preventing or refusing development on highway's grounds if there would be an unacceptable impact on highway safety, or residual cumulative impacts on the road network would be severe.

National Policy Statement for Renewable Energy Infrastructure (NPS EN-3)

- 4.1.3 The NPS for Renewable Energy Infrastructure (EN-3) was published in 2011 and sets out the policies relating to electricity generation from renewable sources of energy, for consideration in conjunction with NPS EN-1. It should however be noted that solar farms are not explicitly included within the document.
- 4.1.4 The NPS EN-3 is currently under review and an updated draft was published for consultation in September 2021, with the inclusion of solar photovoltaic generation impacts within Section 2.54. The most relevant paragraphs are set out within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**), and include:
- Paragraph 2.54.3, which discusses the importance of assessing various potential routes to the site for the delivery of materials and components during the construction period;
 - Paragraph 2.54.4, which considers the suitability of access roads for vehicles transporting components and the need to identify potential modifications where necessary;
 - Paragraph 2.54.9, which states that consistent with EN-1, the SoS should be satisfied, taking into account the views of the relevant local highway

authorities, that any abnormal loads can be safely transported whilst minimising inconvenience to other road users and that the environmental effects of this and other construction traffic, after mitigation, are acceptable; and

- Paragraph 2.54.10, which states that once solar farms are in operation, traffic movements to and from the site are expected to be generally very light, and it is therefore very unlikely that traffic or transport impacts from the operational phase of a project would prevent it from being approved by the SoS.

National Planning Policy Framework (NPPF, 2021)

4.1.5 The Government's National Planning Policy Framework (NPPF) sets out the Government's planning policies for England. It promotes the use of sustainable transport throughout the UK, safe road design and the efficient and sustainable delivery of goods and supplies. The most relevant paragraphs in the context of transport are set out within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**) and include:

- Paragraph 111, which states that "*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network are severe*";
- Paragraph 112, which states that applications for development should give priority first to pedestrian and cycle movements and then, as far as possible, to facilitating access to high quality public transport.

Construction Logistics and Community Safety (CLOCS, 2022)

4.1.6 The CLOCS guidance draws upon evolving best practice, standards, policies and codes of practice, providing a standard which planning authorities, developers and contractors can implement and providing a coherent set of guidelines which can be adhered to, with the primary goals of achieving:

- Zero collisions between construction vehicles and the community;
- Improved air quality and reduced emissions;
- Fewer vehicle journeys; and
- Reduced reputational risk.

4.2 Local Planning Policy

4.2.1 The following identifies various local planning policy documents before picking out the key policies which are considered to be relevant to the construction phase of the scheme, with further details set out in the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**).

4.2.2 **Lincoln Transport Strategy 2020 to 2036 Transport Strategy** recognises the increased importance of freight but does not include policies in this regard.

- 4.2.3 **Adopted Central Lincolnshire Local Plan** includes relevant policies within Policy LP18, Policy LP19 and Policy LP20. It should be noted that consultation on the next stage of the Local Plan review, which is proposed to replace the Local Plan adopted in 2017, took place between 16th March and 9th May 2022.
- 4.2.4 **Fourth Lincolnshire Local Transport Plan 2013/14 – 2022/23** builds on the strategies and policies adopted by previous Local Plans. The transport goals set out within this document include:
- Provide a reliable, resilient transport system which supports a thriving economy and growth whilst encouraging sustainable and healthy travel;
 - Improve access to key services, particularly enabling employment and training opportunities; and
 - Minimise the impacts of transport on people's lives, maximise opportunities to improve the environment and help tackle carbon emissions.
- 4.2.5 It should be noted that a **Fifth Local Transport Plan (Consultation Draft)** has been approved by Lincolnshire and is currently pending adoption.
- 4.2.6 **Gainsborough Transport Strategy (May 2022 – 2036)** has been developed in partnership with West Lindsey District Council and Lincolnshire County Council to provide a vision for the future of transport. The strategy aims to support and help transition towards a net zero future and improve access to opportunities and services by improving travel choice through development of an inclusive, sustainable, and future-ready transport system. The strategy aims to promote how communities travel within the Gainsborough in the promotion of future of mobility, walking and cycling, public transport and decarbonising transport.
- 4.2.7 **Draft Bassetlaw District Local Plan 2020 – 2037 (August 2021)** sets out the Council's development strategy, planning policies and proposals for the district up to 2037. The document includes key strategic objectives, in line with the proposed development which are set out in the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**).
- 4.2.8 **Nottinghamshire Local Transport Plan 2011-2026** sets out Nottinghamshire's transport strategy and outlines a programme of measures to be delivered over the short, medium and long-term. The strategy covers all types of transport including public transport, walking, cycling, cars and freight.

5. Construction Movements

5.1 Introduction

5.1.1 This section provides a summary of the forecast HGV and staff vehicle movements estimated during the construction phase of the Scheme, based on the proposed construction programme.

5.2 Construction Programme

5.2.1 The main construction phase for the Scheme is currently predicted to be 24-36 months between 2025 and 2027, with the construction peak in terms of activity and vehicle movements expected to take place in 2026. The approach taken offers a reasonable worst-case assessment, as this is based on the shorter end of this construction period (24 months) that would generate the highest number of peak hour and daily road trips on the local network.

5.3 Construction Vehicle Movements

Introduction

- 5.3.1 There is expected to be a daily peak of 400 construction workers associated with the Scheme, including 375 construction workers for the Solar and Energy Storage Park and 25 construction workers for the Grid Connection Corridor. All 400 construction workers will travel to/ from the Solar and Energy Storage Park at the start and end of the working day. A minibus service will be utilised to transport construction workers from the Solar and Energy Storage Park to the Grid Connection Corridor (and vice-versa) to reduce vehicular trips on the surrounding highway network.
- 5.3.2 For the Solar and Energy Storage Park, there will be a daily peak of 30 LGVs and 60 HGVs in addition to the 375 construction workers. The associated vehicle trips will be split across four access points including the A156 Gainsborough Road primary site access, and secondary access points on Kexby Lane (North and South) and Marton Road. In the absence of 2021 Census journey to work data (which is not currently available), the forecast trip distribution of construction staff vehicles has been derived using 2011 Census journey to work data which is an industry approved technique.
- 5.3.3 For the Grid Connection Corridor, there will be a daily peak of 16 LGVs and 12 HGVs in addition to the 25 construction workers. The associated vehicle trips are expected to be split across multiple access points including those to the east of the River Trent (in Lincolnshire) and those to the west of the River Trent (in Nottinghamshire). In view of the minimal levels of vehicle trips to be generated and given that different access points would be utilised than those used to access the Solar and Energy Storage Park, the Grid Connection Corridor is not expected to have a material impact on the surrounding highway network. Nonetheless, these trips have been included as part of the assessment of the Scheme to provide a worst-case assessment.

Solar and Energy Storage Park

- 5.3.4 For the purposes of this assessment and based on the information provided in support of the application, the peak daily number of HGVs, LGVs and construction staff required for the Solar and Energy Storage Park are identified below. It should be noted that the forecast numbers below include consideration of daily variation and peak daily movements to provide a robust assessment:
- 60 HGV deliveries (120 movements per day);
 - 30 LGV deliveries (60 movements per day); and
 - 400 construction staff (persons) with the forecast number of staff vehicles identified below.
- 5.3.5 In terms of construction staff vehicles, the following has been included as part of this assessment:
- 55% of construction staff (220 persons) to be transferred to/ from the Solar and Energy Storage Park by shuttle service (each with capacity for 50 staff) to/ from four centres in the vicinity considered to be Gainsborough (north), Lincoln (south), Retford (west) and Newark on Trent (also south). It is assumed that an average of 55 staff would reside within each of the four areas (as indicated) and two shuttle services would be required to/ from each area equating to a total of eight shuttle services in the morning (16 movements) and eight shuttle services in the evening (16 movements). All shuttle services will be required to travel via the main site access on the A156 Gainsborough Road. It has been assumed that 50% shuttle services would travel via the A156 to the north (for Gainsborough and Retford) and 50% would travel via the A156 to the south (for Lincoln and Newark on Trent).
 - 45% of construction staff (180 persons) to travel by private vehicle with an average occupancy of 1.3 staff per vehicle, resulting in 138 staff vehicles (276 daily movements).
- 5.3.6 In relation to the shuttle service provision, if additional demand is identified by the monitoring carried out as part of this Framework CTMP and/ or Detailed CTMPs (which will be secured through the DCO) then additional shuttle services will be provided to further reduce the number of construction staff vehicles on the network.
- 5.3.7 Given the locations of the nearest rail and bus services/ stops to the Scheme and considering the public transport timetables in relation to the construction staff working hours, there will be limited opportunity for construction staff to travel to the Solar and Energy Storage Park by rail or bus. Nevertheless, sustainable travel will be promoted for usage by construction staff travelling to/ from the Solar and Energy Storage Park with further details set out within this document. The above mode share is considered to provide a worst-case assessment in terms of the number of construction staff vehicles forecast.
- 5.3.8 The forecast distribution of HGVs, LGVs and construction staff vehicles across the site accesses for the Solar and Energy Storage Park is presented below in Table 1. A slightly different distribution has been adopted for

construction workers based on the proposed levels of parking at each of the compounds, with the majority of parking to be provided at the main compound accessed via the A156 Gainsborough Road.

Table 1 Forecast Trip Distribution (Construction Accesses) for Solar and Energy Storage Park

Access	Description	Construction Staff (%)	HGVs and LGVs (%)
A156 Gainsborough Road	Primary access serving the majority of the Solar and Energy Storage Park (west of the railway line)	70%	62%
Kexby Lane North	Secondary access serving a few parcels to the north of Kexby Lane	9%	9%
Kexby Lane South	Secondary access serving the Solar and Energy Storage Park (east of the railway line)	12%	20%
Marion Road	Secondary access serving a few parcels to the southeast	9%	9%
Total	-	100%	100%

5.3.9 Based on the trip generation and distribution outlined above, the forecast peak daily trip generation for each of the Solar and Energy Storage Park accesses during the construction period (in terms of vehicles) is set out in Table 2 below.

Table 2 Forecast Peak Daily Construction Vehicles for Solar and Energy Storage Park

Site Access	HGVs	LGVs	Staff Vehicles	Shuttle Services	Total Vehicles
A156	38	18	97	16*	169
Kexby Lane North	5	3	12	0	20
Kexby Lane South	12	6	17	0	35
Marion Road	5	3	12	0	20
Total	60	30	138	16*	244

*each shuttle service to depart from and arrive back to the Site twice per day i.e. eight shuttle services picking-up and dropping-off staff in the morning, and eight shuttle services in the evening

5.3.10 A daily profile of overall construction movements (arrivals and departures) for just the Solar and Energy Storage Park is presented in Table 3 below based on the anticipated travel patterns of staff, LGVs and HGVs across the day

and the winter profile in terms of staff working hours (to provide a robust assessment due to compressed working hours close to the traditional network peak hours).

Table 3 Forecast Peak Daily and Hourly Construction Movements for Solar and Energy Storage Park

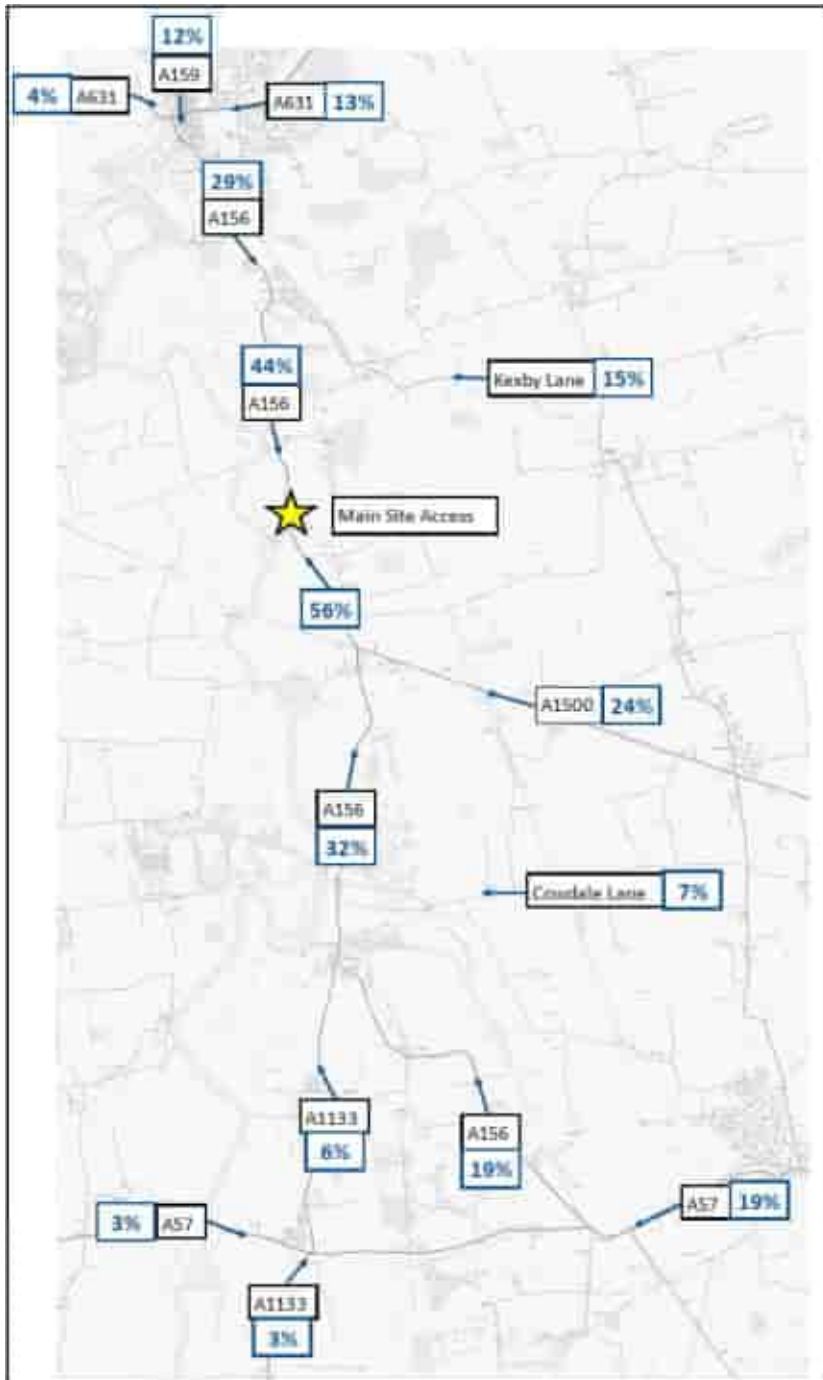
Hour	HGVs and LGVs		Staff Vehicles (inc. Shuttle Services)		Total Vehicles		
	Arr	Dep	Arr	Dep	Arr	Dep	Total
06:00-07:00	0	0	0	0	0	0	0
07:00-08:00	0	0	146	8	146	8	154
08:00-09:00	0	0	0	0	0	0	0
09:00-10:00	11	11	0	0	11	11	22
10:00-11:00	12	12	0	0	12	12	24
11:00-12:00	11	11	0	0	11	11	22
12:00-13:00	11	11	0	0	11	11	22
13:00-14:00	11	11	0	0	11	11	22
14:00-15:00	12	12	0	0	12	12	24
15:00-16:00	11	11	0	0	11	11	22
16:00-17:00	11	11	0	0	11	11	22
17:00-18:00	0	0	0	0	0	0	0
18:00-19:00	0	0	8	146	8	146	154
19:00-20:00	0	0	0	0	0	0	0
Total	90	90	154	154	244	244	488

5.3.11 For the purposes of the assessment the following assignment of HGV and LGV trips (excluding abnormal loads which will follow defined routes via the strategic highway network) have been made onto the local highway network (as proposed and agreed during scoping discussions with the LHAs):

- 50% of HGVs and LGVs to travel to/ from the A156 to the north; and
- 50% of HGVs and LGVs to travel to/ from the A156 to the south.

5.3.12 An HGV routing plan is shown on **ES Volume 2: Figure 13-3 [EN010131/APP/3.2]**, identifying the key routes which will be used by HGVs and LGVs (including shuttle services) to travel to/ from each site access. It should be noted that for the Solar and Energy Storage Park, all HGVs (excluding abnormal loads) will be expected to travel via the A156 and the majority of these vehicles would avoid the local towns/ villages such as Sturton by Stow and Willingham by Stow. A separate routing plan for abnormal loads is shown on **ES Volume 2: Figure 13-6 [EN010131/APP/3.2]** and further details on abnormal loads are set out within Section 6.

- 5.3.13 Given no more recent Census data is available, the forecast trip distribution of construction staff vehicles has been derived using the 2011 Census 'WU03EW – Location of usual residence and place of work by method of travel to work' dataset for the West Lindsey Middle Super Output Area (MSOA) 007 i.e. to identify incoming vehicle trips to the area where the Solar and Energy Storage Park is located. Route planning software has been used to determine the likely routes that will be used by construction staff to/ from each of the Solar and Energy Storage Park site accesses.
- 5.3.14 To provide an example, the distribution of construction staff vehicle trips (excluding shuttle services) to/ from the main site access on the A156 is identified in Plate 1 below. It should be noted that a separate distribution has been derived for each site access point and the traffic flow diagrams held within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**) identify the distribution and assignment of construction staff vehicles to all of the site accesses of the Solar and Energy Storage Park.



**Plate 1 Staff Trip Distribution Example (Main Site Access on the A156)
 Grid Connection Corridor**

5.3.15 There is expected to be a daily peak of 25 construction workers, 16 LGVs and 12 HGVs associated with the Grid Connection Corridor. The associated vehicle trips are expected to be split across multiple access points (see Section 6.3) including those to the east of the River Trent (in Lincolnshire) and those to the west of the River Trent (in Nottinghamshire). A minibus service will transport construction workers from the Solar and Energy Storage Park to the Grid Connection Corridor (and vice-versa). In view of the minimal levels of vehicle trips to be generated and given that different access points would be utilised than those used to access the Solar and Energy Storage Park, the Grid Connection Corridor is not expected to have a

material impact on the surrounding highway network. Nonetheless, these trips have been included as part of the assessment of the Scheme to provide a worst-case assessment.

5.3.16 A daily profile of overall construction movements (arrivals and departures) for the Grid Connection Corridor is presented in Table 4 below based on the anticipated travel patterns of staff, LGVs and HGVs across the day and the winter profile in terms of staff working hours (to provide a robust assessment due to compressed working hours close to the traditional network peak hours).

Table 4 Forecast Peak Daily and Hourly Construction Movements for Grid Connection Corridor

Hour	HGVs and LGVs		Staff Vehicles (inc. Shuttle Services)		Total Vehicles		
	Arr	Dep	Arr	Dep	Arr	Dep	Total
06:00-07:00	0	0	0	0	0	0	0
07:00-08:00	0	0	0	0	0	0	0
08:00-09:00	0	0	1	0	1	0	1
09:00-10:00	3	3	0	0	3	3	6
10:00-11:00	3	3	0	0	3	3	6
11:00-12:00	4	4	0	0	4	4	8
12:00-13:00	4	4	0	0	4	4	8
13:00-14:00	3	3	0	0	3	3	6
14:00-15:00	4	4	0	0	4	4	8
15:00-16:00	4	4	0	0	4	4	8
16:00-17:00	3	3	0	0	3	3	6
17:00-18:00	0	0	0	1	0	1	1
18:00-19:00	0	0	0	0	0	0	0
19:00-20:00	0	0	0	0	0	0	0
Total	28	28	1	1	29	29	58

5.3.17 For the purposes of the assessment, all HGVs and LGVs identified in Table 4 above have been assigned across the following parts of the network to access all parts of the Grid Connection Corridor:

- A156 Gainsborough Road between the A631 at the northern extent of the study area and the A57 at the southern extent of the study area;
- A1500 Stow Park Road to/ from accesses on A1500;
- Cottam Road; and
- Headstead Bank.

5.3.18 The above will result in some double-counting of trips, as HGVs and LGVs would only travel to/ from a few accesses each day rather than all of those

listed above i.e. depending on the section of the Grid Connection Corridor that is being installed. This is therefore considered to provide a worst-case assessment.

- 5.3.19 In terms of construction workers, it is assumed that a single minibus service would transport the 25 construction workers from the Solar and Energy Storage Park to the Grid Connection Corridor in the morning and vice-versa in the evening. The same assumptions have been adopted as above in terms of routing the minibus service to all access points. Again, it should be noted that construction workers would travel to/ from the Solar and Energy Storage Park at the very start and end of their working day as per the arrangements set out in the earlier section.
- 5.3.20 The HGV routing plan shown in **ES Volume 2: Figure 13-3 [EN010131/APP/3.2]** identifies the key routes which will be used by HGVs and LGVs to travel to/ from each site access for the Grid Connection Corridor. All HGVs will be expected to travel via the A57, Laneham Road and Rampton Road in order to access Cottam Road and Headstead Bank.

5.4 Vehicle Types

5.4.1 It is expected that the majority of construction vehicles accessing the Site will fall into the 'normal' size category (i.e. transit vans and HGVs). It is anticipated that the following vehicle types will serve the Scheme during the construction phase:

- Cars;
- Tractors;
- Small vans;
- 10m rigid vehicles;
- Box vans;
- 8-wheeler rigid lorries;
- Concrete mixers; and
- Articulated lorries (44ft or 13.5m).

5.4.2 In addition, it is expected that there will be a number of Abnormal Indivisible Loads (AILs)/ abnormal vehicles required by the Scheme. Details of the vehicles required to transport AILs are set out below.

5.5 Plant Requirements

5.5.1 The typical plant requirements (and associated vehicle types) for the Horizontal Directional Drilling (HDD) during the construction works are listed below:

Launch Pits

- 44ft articulated lorry for delivery / pick up of the directional drill rig;
- Three 44ft articulated lorries for delivery of cable;

- Up to 5 x three-axle rigid 30ft flatbeds for delivering temporary trackway;
- One telehandler anticipated to be delivered on 44ft articulated lorry;
- One excavator (anticipated to be delivered and picked up with the telehandler);
- Two 6m³ concrete lorries for delivering the concrete to create the joint bays;
- Two Vans;
- Beavertail Lorry & 1000 Gallon Tank (with 13m x 2.5m Rod boxes);
- JT8020 – HDD Rig (9m x 2.6m) and 20t in weight;
- John Deere 7280R Tractor and Tanker (12.3m x 2.5m);
- Vehicle with 2 x 1000 Gallon Mixing Tanks (9m x 2.5m); and
- Mud Mixing Tank Unit (7.6m x 2.5m).

Reception Pits

- Four excavators (anticipated to be delivered and picked up with the telehandler);
- Two 6m³ concrete lorries for delivering the concrete to create the joint bays;
- Three 44ft articulated lorries for delivery of cable;
- Up to 5 x three-axle rigid 30ft flatbed for delivering temporary trackway;
- One telehandler anticipated to be delivered on 44ft articulated lorry; and
- One flatbed lorry for the delivery of sand.

5.5.2 The above are expected to be sourced locally and will be delivered to the Site either individually driven (larger units) and/ or by plant haulage.

5.5.3 Vehicle swept paths have been carried out for a cable drum transporter (24.6m in length) for the relevant proposed construction access points across the Site. This represents the abnormal vehicle which will transport cable drums to/ from the Grid Connection Corridor and is therefore considered to be robust. For accesses required during construction that do not form part of the cable installation corridor, the accesses are designed to cater for 16.5m maximum legal articulated vehicles. The swept paths (Annex A and Annex B) demonstrate that all construction vehicles will be able to access the site without overrunning any kerb lines.

5.6 Abnormal Vehicles

5.6.1 The following abnormal vehicles are expected during the construction phase of the Scheme to transport AILs and further details are set out within Section 6:

- A 65.8m length vehicle to deliver the transformer to the Solar and Energy Storage Park via the main site access on the A156 (arrival only, as the vehicle would be disassembled prior to egress); and

- Several 24.6m length vehicles to transport cable drums to/ from the Grid Connection Corridor via multiple access points (arrivals and departures).
- 5.6.2 A specialised haulage service will be employed to allow these components to be transported with the necessary escort, permits and traffic management, with the applicant consulting the relevant highways authorities to ensure the correct permits are obtained. The police will also be given advanced notification under the Road Vehicle Authorisation of Special Types Order 2003.
- 5.6.3 The abnormal vehicles will be required to follow the abnormal vehicle routing strategy (**ES Volume 2: Figure 13-6 [EN010131/APP/3.2]**) when travelling to/ from the Site. The vehicle swept paths are held in Annex C for the Grid Connection Corridor and within Annex D for the Solar and Energy Storage Park. A number of highway improvements will be required to accommodate abnormal vehicles. As above, further details of these abnormal loads are set out within Section 6.

6. Site Access, Layout and Routing

6.1 Introduction

- 6.1.1 During the construction phase the Scheme will be served by a number of proposed Solar and Energy Storage Park accesses. The Solar and Energy Storage Park will have a main access on the A156 Gainsborough Road, with secondary accesses provided on the northern and southern sides of Kexby Lane and Marton Road. The Grid Connection Corridor will be served by accesses on the A1500 Stow Park Road, the A156 High Street, Cottam Road, Headstead Bank and Cow Pasture Lane. The proposed access locations for the Scheme are illustrated on **ES Volume 2: Figure 2-4 [EN010131/APP/3.2]** and on **ES Volume 2: Figure 2-5 [EN010131/APP/3.2]**.
- 6.1.2 The proposed accesses for the Solar and Energy Storage Park will both be utilised during the construction and operational phases. The accesses to the Grid Connection Corridor will also be retained during the operational phase and secured with gates, in order to facilitate occasions where maintenance and repairs are required.
- 6.1.3 The proposed site layout for the construction phase is shown on **ES Volume 2: Figure 2-4 [EN010131/APP/3.2]**. This shows the proposed access arrangements and internal construction routes, as well as construction compound locations for the Solar and Energy Storage Park and the Grid Connection Corridor.

6.2 Solar and Energy Storage Park

Proposed Site Accesses

- 6.2.1 The proposed construction accesses for the Solar and Energy Storage Park are as follows:
- A156 Gainsborough Road North (primary access located to the north of Gate Burton);
 - Kexby Lane North (secondary access located between Knaith Park and Kexby);
 - Kexby Lane South (secondary access located between Knaith Park and Kexby); and
 - Marton Road (secondary access located by Willingham by Stow, utilising an existing farm access and track).
- 6.2.2 Operational access will primarily be taken from the A156 Gainsborough Road via Clay Lane (existing access), but will also be achievable via Kexby Lane North, Kexby Lane South and Marton Road (as above) which will be retained during the operational phase. An additional operational access will also be utilised on a separate part of Marton Road at the south-eastern boundary of the Solar and Energy Storage Park. The majority of routine visits by vans and four-wheel drive vehicles would utilise the Clay Lane rail

underpass for access to the eastern part of the Solar and Energy Storage Park. If larger vehicles are required to access the eastern part of the Solar and Energy Storage Park, then these would utilise the Kexby Lane South or the Marton Road access points. The A156 Gainsborough Road North access would only be utilised should larger vehicles be required for heavy component replacement.

6.2.3 The proposed locations of the above access points are shown on **ES Volume 2: Figure 2-4 [EN010131/APP/3.2]**. The locations offer the following benefits:

- The proposed accesses will provide direct access from the public highways without crossing any third-party land;
- The accesses will be located on sections of carriageway where the required visibility splays and Sight Stopping Distances (SSDs) will be achievable in each direction subject to vegetation clearance where necessary within the Site (see below); and
- The accesses and adjoining roads will be appropriate to accommodate HGVs without a need to widen any parts of the network beyond the Order limits.

6.2.4 Further to the above, several existing access points will be stopped-up as part of the proposals for the Solar and Energy Storage Park, including in instances where an alternative (new) access is to be provided in support of the Scheme or where an existing access will be redundant (no longer required) with the Scheme in place. Nonetheless, the majority of existing access points across the Order limits will be retained in order to maintain access to existing land parcels where necessary. A summary of the access points to be stopped-up is as follows:

- An existing access on the southern side of Kexby Lane will be stopped-up and replaced by the proposed access on the southern side of Kexby Lane;
- An existing access on the northern side of Kexby Lane will be stopped-up as this will become redundant with the Scheme in place;
- An existing access on the northern side of Willingham Road will be stopped-up as this will become redundant with the Scheme in place;
- An existing access on the southern side of Clay Lane will be stopped-up and replaced by a new internal access on the southern side of Clay Lane;
- An existing access on the northern side of Clay Lane will be stopped-up and replaced by a new internal access on the northern side of Clay Lane;
- An existing access on the western side of Marton Road will be stopped-up as this will become redundant with the Scheme in place; and
- Four existing accesses on the northern side of Marton Road will be stopped-up as these will become redundant with the Scheme in place.

- 6.2.5 Further details relating to the above are shown on the Streets, Right of Way and Access Plans **[EN010131/APP/5.3]**.

Vehicle Routing

- 6.2.6 Construction HGVs will travel to/ from the Solar and Energy Storage Park via the A156, to minimise passing through local villages. They will then utilise the B1241 Kexby Lane to reach the northern and eastern portions of the Solar and Energy Storage Park via the Kexby Lane accesses and the Marton Road access if necessary. The routing strategy reflects the most suitable routes available, to avoid limitations/ restrictions associated with alternative local routes adjacent to the Site such as Marton Road to the south of the construction access.
- 6.2.7 A vehicle routing plan showing the routing strategy for HGVs at the Solar and Energy Storage Park is shown in **ES Volume 2: Figure 13-3 [EN010131/APP/3.2]**.

Access Layouts

- 6.2.8 The proposed layouts of the accesses to the Solar and Energy Storage Park are shown within Annex A. Local highway improvements (e.g. verge clearance, hedge cutting and/ or carriageway realignment) will be carried out at each site access where required and a 6.0m carriageway width will be provided along internal construction routes for HGVs (further details are set out within Section 7). The proposed site access roads will be surfaced with a bound surfacing material over a minimum 20m distance from the junction, to minimise the transfer of material onto the public highway as a result of construction vehicles.
- 6.2.9 The site access roads have been designed to accommodate two-way HGV movements (excluding abnormal vehicles). There is expected to be a maximum of 14 HGV and LGV arrivals to or departures from the Solar and Energy Storage Park via the main A156 site access during the busiest hours. This equates to one vehicle movement every 4-5 minutes. The proposed layout of the Solar and Energy Storage Park accesses are considered to be appropriate for accommodating this level of activity.

Visibility Splays

- 6.2.10 The Design Manual for Roads and Bridges (DMRB) CD 109 (Highway Link Design) identifies desirable minimum SSDs based on the design speed of the carriageway. These values are adopted within DMRB CD 123 (Geometric design of at-grade priority and signal-controlled junctions) in order to determine the visibility requirements (the 'y' distance) at priority junctions, measured along the edge of the major road carriageway from the centreline of the minor arm at the junction. These requirements are shown in Table 5 below.

Table 5 Desirable Minimum SSDs based on Design Speed

Design Speed (kph)	SSD ('Y' Distance)
50	70m
60	90m
70	120m
85	160m
100	215m
120	295m

- 6.2.11 The minimum distance from which the visibility splays are measured at simple priority junctions is at a 2.4m setback (the 'x' distance) from the give-way line.
- 6.2.12 The 'Desirable Minimum' SSDs in the DMRB are based on a driver perception/ reaction time of two seconds and a deceleration rate of 0.25g (2.45 m/s²). The 'Absolute Minimum' (one step below Desirable Minimum) SSD values use the same reaction time and a deceleration rate of 0.375g (3.68 m/s²).
- 6.2.13 The 85th percentile speed of traffic represents the appropriate speed measurement for an existing major road when determining visibility splay requirements. The above parameters have been adopted to calculate the desirable minimum and absolute minimum visibility requirements for all roads with proposed accesses based on the highest recorded 85th percentile speeds from the surveys carried out in March/ April 2022, as identified within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**). The results are shown below in Table 6.

Table 6 SSDs for Proposed Solar and Energy Storage Park Access Points (DMRB)

Site Access	Survey	85 th Percentile Speed (Highest Recorded)	DMRB Requirement (SSD/ 'Y' Distance)	
			Desirable Minimum	Absolute Minimum
A156 Main Access	30506-001	95.7 kph	198m	150m
Kexby Lane (North and South)	30506-010	89.5 kph	176m	134m
Marton Road	30506-009	56.0 kph	81m	64m

- 6.2.14 Drawings showing the required areas to be kept clear to achieve visibility splays and SSDs of 215m (i.e. well in excess of the desirable minimum requirements), or otherwise the maximum achievable visibility splays where relevant are held within Annex A. These drawings demonstrate that the desirable minimum visibility splays (identified in Table 6 above) can be achieved through the clearance of vegetation etc. within the highway boundary and the land included within the Order limits. Further details of the

calculations relating to the visibility splay requirements are set out within the TA (ES Volume 3: Appendix 13-D [EN010131/APP/3.3]).

Abnormal Vehicles

6.2.15 A detailed assessment of the abnormal vehicle required for the Solar and Energy Storage Park has been carried out by Collett - an abnormal loads specialist appointed to assess the movement associated with the delivery of a transformer from Immingham Port. The nature of the delivery is such that an AIL will only be required when the transformer is transported to the Solar and Energy Storage Park, as the vehicle will be disassembled and take the form of a standard vehicle prior to its departure. The Collett report (including vehicle routing and swept paths) is held in Annex D and is summarised as follows:

- The assessment was carried out using a vehicle at overall 65.8m length, 5.05m width, and 4.71m height, and included a site visit to assess each link and junction within the overall route;
- The delivery will transfer from Immingham Docks via Humber Road (West Gate), would proceed onto the A160 and onto the A180 which leads onto the M180. At Junction 4, the vehicle will proceed onto the A15 southbound. A right turn will be made at the A1500 Till Bridge Lane, then a right turn onto the A156 Gainsborough Road, then a further right turn into the Gainsborough Road site access point.
- Traffic management and the temporary closure of affected footways in the vicinity of the A156 / A1500 junction will be required to facilitate the turning manoeuvre at this junction. Any damage to existing pavement infrastructures such as kerblines or tactile paving are to be reinstated to the satisfaction of the Local Authority;
- Carriageway widening will be required at the proposed site access on the A156;
- A number of constraints have been identified. The constraints comprise a need to open a contraflow gate at Immingham Port, a hill descent on the A1500 requires a vertical survey, and at the A1500/A156 junction, there is a need to protect two pavements. A vertical alignment issue was identified to the south at the A156 Torksey Lock, over Foss Dyke, subject to a vertical survey. The site access was marked as a constraint because it has not yet been constructed.

6.2.16 The above improvements will be carried out within the Order limits and the movements will take place subject to the management measures outlined in Section 7.

Vehicle Swept Paths

6.2.17 As set out above, the proposed routing strategy for HGVs (non-abnormal vehicles) is via the A156 Gainsborough Road as the main site access, with two accesses provided on Kexby Road to the north and an additional access on Marton Road to the east. The location of accesses and proposed routes will ensure that larger vehicles take the most direct route to and from the site, while minimising the number of turning movements. Drawings showing

vehicle swept paths for a cable drum transporter (24.6m in length) or a 16.5m maximum legal articulated vehicle (where relevant) are held in Annex A.

- 6.2.18 The vehicle swept paths demonstrate that construction vehicles will be able to turn in/ out of the proposed site accesses without overrunning any kerb lines. It should be noted that banksmen will be in place to control HGV movements at the accesses to ensure these movements are carried out safely. An appropriate level of visibility will be achievable to/ from the accesses as set out above. No carriageway widening or amendments will be required outside of the Order limits.

Construction Compounds

- 6.2.19 As shown by the proposed Solar and Energy Storage Park layout (**ES Volume 2: Figure 2-4 [EN010131/APP/3.2]**), the main construction compound will be located near to the A156 Gainsborough Road access and four smaller secondary compounds will be situated across the Solar and Energy Storage Park site at strategic locations, all served by the primary and secondary access routes. The smaller compounds will be converted to solar PV and the larger compound returned to landscaping at the end of their use.
- 6.2.20 The main construction compound will be located 520m from the proposed A156 Gainsborough Road access, adjacent to the primary access road which will run from the proposed access and eastwards towards the array of PVs. The main compound will be approximately 150m x 80m in size and will contain offices, mobile welfare units, canteens, storage and waste skips, a power supply, parking areas and space for storage, a wheel washing facility, a bunded area for refuelling and the storage of liquids, as well as unloading and turning areas.
- 6.2.21 The smaller secondary construction compounds will be situated across the Solar and Energy Storage Park at strategic locations. The secondary compounds will be a maximum of 130m x 80m in size and will contain material storage areas, mobile welfare units, offices, diesel generators, rock fill placed on a suitable formation and temporary matting (if required), fencing to secure the compound, parking areas and turning areas.

Access Tracks

- 6.2.22 It is proposed to utilise the existing hard-surfaced tracks that run throughout the Solar and Energy Storage Park where possible (upgrading existing access tracks through widening or resurfacing where these are required along the route), and to construct additional access tracks where connectivity is required. The access route from the proposed main site access of the A156 to the main construction compound will be 7.3m in width. The internal tracks will enable free-flowing movement within the site whilst removing construction traffic from local roads.

Car and Cycle Parking

- 6.2.23 During the construction phase of the works, a total of 100 car parking spaces will be provided within the main construction compound for construction workers which is designed to meet peak parking demand. A total of 18 car

parking spaces will be provided at each secondary compound. A total of six cycle parking spaces will also be provided within the main construction compound. Construction workers will then be transported around the Site via minibus. The usage of the car parks will be monitored and the potential to introduce additional parking will be explored during peak construction if required, to ensure that parking does not occur outside of the Site.

6.3 Grid Connection Corridor

Proposed Site Accesses

- 6.3.1 During the construction phase, a series of new accesses will be provided to facilitate works within the Grid Connection Corridor as follows:
- A1500 Stow Park Road North (located east of Marton);
 - A1500 Stow Park Road South (located east of Marton);
 - A156 High Street East (located circa. 600m south of Marton);
 - A156 High Street West (located circa. 1.4km south of Marton);
 - Headstead Bank East (located circa. 100m south of Broad Lane);
 - Headstead Bank West (located circa. 130m south of Broad Lane);
 - Cottam Road North (located west of Cow Pasture Lane);
 - Cottam Road South (located west of Cow Pasture Lane); and
 - Cow Pasture Lane East (located circa. 550m north of Cottam Road).
- 6.3.2 It should be noted that the Cow Pasture Lane access will only be used during the early part of the construction programme by vehicles up to 7.2m in length. This will subsequently change in form to a vehicle crossover (rather than a priority junction) once the internal haul road has been constructed to allow all construction vehicles (including HGVs) to access the area to the east of Cow Pasture Lane via the new access on the northern side of Cottam Road and the haul road. This will avoid the need for HGVs to use Cow Pasture Lane and no improvements at the junction with Cottam Road are expected to be required. However, there may be the requirement to resurface Cow Pasture Lane at the crossover point.
- 6.3.3 Further to the above, a restricted (emergency) access will be utilised on the northern side of Torksey Ferry Road which will only be utilised by light vehicles during exceptional circumstances if required i.e. should it not be possible to utilise the access on Cottam Road South.
- 6.3.4 The proposed vehicle access arrangements for the Grid Connection Corridor are shown on **ES Volume 2: Figure 2-5 [EN010131/APP/3.2]**.
- 6.3.5 An existing access point on the western side of the A156 (circa. 1.4km south of Marton) will be stopped-up and replaced by the proposed access for the Grid Connection Corridor at this location. An alternative (new) access point will then be provided circa. 80m to the north in order to maintain access to the existing land parcel (agricultural field and National Grid Pylon) to the

west of the A156. Further details relating to the above are shown on the Streets, Right of Way and Access Plans [EN010131/APP/5.3].

Vehicle Routing

- 6.3.6 The Grid Connection Corridor will be accessed via a range of accesses along the corridor to access the various sections of the cable route. The accesses will be in place during the construction phase and retained thereafter (controlled by gates) in order to facilitate maintenance and repairs as necessary during the operational phase. The proposed HGV routing strategy to/ from the Grid Connection Corridor is identified on **ES Volume 2: Figure 13-7 [EN010131/APP/3.2]**.

Access Layouts

- 6.3.7 The proposed layouts of the accesses are shown within Annex B which show that the construction access roads will be 6m wide to accommodate two-way HGVs (excluding abnormal loads) including the required load bearing capacity, load overhang and turning provisions as shown by the vehicle swept paths (covered further below). The Grid Connection Corridor accesses are expected to serve up to 16 HGVs and 12 LGVs (split across multiple accesses) per day during the peak construction period. This level of activity is expected to be easily accommodated within the local highway network, and the design of the accesses will sufficiently accommodate this.

Visibility Splays

- 6.3.8 Visibility splays will be provided at all accesses commensurate with the desirable minimum requirement for the prevailing 85th percentile speed at each adjoining link.
- 6.3.9 The same parameters have been adopted as for the Solar and Energy Storage Park to calculate the desirable minimum and absolute minimum visibility requirements for Grid Connection Corridor accesses. The results are shown below in Table 7.

Table 7: SSDs for proposed access points to the Solar and Energy Storage Park (DMRB)

Site Access	Survey	85 th Percentile Speed (Highest Recorded)	DMRB Requirement (SSD/ 'Y' Distance)	
			Desirable Minimum	Absolute Minimum
A1500 North and South	30506-005	96.9 kph	202m	153m
A156 East and West	30506-006	85.9 kph	164m	126m
Cottam Road North and South	30506-012	98.5 kph	208m	157m
Headstead Bank East and West	30506-013	59.9 kph	90m	71m

Site Access	Survey	85 th Percentile Speed (Highest Recorded)	DMRB Requirement (SSD/ 'Y' Distance)	
			Desirable Minimum	Absolute Minimum
Cow Pasture Lane East	-	59.9 kph	90m	71m

6.3.10 It should be noted that the visibility requirements for Cow Pasture Lane have been based on the speed survey results for Headstead Bank, in the absence of any survey data for Cow Pasture Lane. This is considered to provide a robust approach given that Cow Pasture Lane is a lower category road (both narrower and less well-surfaced) than Headstead Bank.

6.3.11 Drawings showing the required areas to be kept clear to achieve visibility splays and SSDs of 215m (i.e. well in excess of the desirable minimum requirements) or otherwise the maximum achievable visibility splays where relevant are held within Annex B. These drawings demonstrate that the desirable minimum visibility splays (identified in Table 6 above) can be achieved through the clearance of vegetation etc. within the highway boundary and/ or the land included within Order limits. Further details of the calculations relating to the visibility splay requirements are set out within the TA (ES Volume 3: Appendix 13-D [EN010131/APP/3.3]).

Abnormal Vehicles

6.3.12 The abnormal vehicles relating to the Grid Connection Corridor will be associated with the delivery and removal of cable drums. A summary of the assessment of abnormal vehicles for the Grid Connection Corridor is as follows:

- Swept path analysis (Annex C) has been carried out using a vehicle at overall 24.6m length and 2.85m width, transporting a cable drum which will be 4.7m in width and 4.47m in height;
- Vehicles will travel to/ from the A57 to the west and then travel via Laneham Road, Rampton Road and Cottam Road (ES Volume 2: Figure 13-6 [EN010131/APP/3.2]);
- Traffic Management and the temporary closure of affected footways in the vicinity of the A156 / A1500 junction will be required to facilitate the turning manoeuvre at this junction. Any damage to existing pavement infrastructures such as kerblines or tactile paving are to be reinstated to the satisfaction of the Local Authority; and
- Vegetation clearance and potential carriageway widening on Headstead Bank will be undertaken to accommodate construction vehicles (including abnormal vehicles) travelling to/ from the Grid Connection Corridor.

6.3.13 The above improvements will be carried out within the Order limits and the movements will take place subject to the management measures outlined in Section 7.

Vehicle Swept Paths

- 6.3.14 Drawings showing vehicle swept paths for a cable drum transporter (24.6m in length) at the proposed access points are held in Annex B. The vehicle swept paths demonstrate that construction vehicles will be able to turn in/ out of the proposed Grid Connection Corridor accesses without overrunning any kerb lines. It should be noted that banksmen will be in place to control HGV movements at the accesses to ensure these movements are carried out safely. An appropriate level of visibility will be achievable to/ from each access as set out above.

Construction Compounds

- 6.3.15 Construction compounds will be located at specified positions within the Grid Connection Corridor, accessed via the nearest access point to that compound. Construction workers will travel by minibus from the Solar and Energy Storage Park in order to access the compounds within the Grid Connection Corridor. The proposed indicative locations of the Grid Connection Corridor construction compounds are shown on **ES Volume 2: Figure 2-5 [EN010131/APP/3.2]**.

Car Parking

- 6.3.16 No car parking spaces will be provided for construction workers within the construction compounds serving the Grid Connection Corridor, as staff will be transferred to and from this portion of the Site via minibus. All construction workers will park within the construction compounds associated with the Solar and Energy Storage Park.

Plant Requirements

- 6.3.17 A wide range of vehicle types will be used in order to meet the requirements for the delivery of plant to the site. Aside from the items identified as AILs for the Grid Connection Corridor (cable drums) these will be accommodated by the proposed access routes identified previously.

7. Management and Mitigation

7.1 Introduction

7.1.1 This section of the Framework CTMP outlines the construction traffic management measures that will be implemented in support of the Scheme, to avoid any adverse impacts on the surrounding networks during the construction phase.

7.2 Highway Network

Highway Improvements

7.2.1 The following highway improvements will be required to accommodate construction vehicles travelling to/ from the Site:

- A156/ A1500 temporary traffic management/ footway closures to accommodate the abnormal vehicle transporting the AIL (transformer) to the Solar and Energy Storage Park (see Annex D) as well as abnormal vehicles transporting AILs (cable drums) both to and from the Grid Connection Corridor (see Annex C); and
- Vegetation clearance and potential carriageway widening on Headstead Bank to accommodate construction vehicles (including abnormal vehicles) travelling to/ from the Grid Connection Corridor (see Annex C).

7.2.2 The Order limits include the areas required to accommodate the above improvements where required. The proposed extent of any carriageway works to be delivered in support of the Scheme is to be agreed with LCC and NCC Highways.

Localised Traffic Management Measures

7.2.3 Temporary Traffic Management (TTM) measures will be required to accommodate the construction of each of the access points. Furthermore, TTM will be required to accommodate the installation of the cables across Cottam Road, Cow Pasture Lane and Headstead Bank in the instance that trenchless Horizontal Directional Drilling (HDD) is not employed. It should be noted that trenchless methods will be utilised when installing the cable beneath the A156 and the A1500 in order to avoid any lane or road closures on these parts of the network. Further details will be provided as part of the Detailed CTMP(s).

Stage 1 Road Safety Audit

7.2.4 A Stage 1 Road Safety Audit (RSA) will be carried out for the following post-submission:

- Preliminary design of the proposed site access points and crossovers for the Scheme; and
- Proposed highway improvements as identified above.

- 7.2.5 The highway improvements will be secured by the DCO, and further details of the works required to deliver the improvements will be provided in the Detailed CTMP(s).

7.3 Pedestrian and Cycle Routes

- 7.3.1 Access to all existing PRow will be retained during the construction phase, with no PRow closures and a limited number of temporary PRow diversions around the Grid Connection Corridor works areas when the cabling is installed or to physically separate these from the proposed construction routes. Further details of the anticipated interactions between construction works/ routes and how the existing PRow will be managed during the construction phase are set out within the **Outline PRow Management Plan**[EN010131/APP/7.8].

7.4 Management Measures and Controls

Introduction

- 7.4.1 The following measures will be implemented to manage HGV deliveries to the Site (relating both the Solar and Energy Storage Park and the Grid Connection Corridor) and further details are set out under separate headings below:

- Road condition surveys;
- Delivery management system;
- Traffic management and monitoring;
- Suitable HGV routes – avoiding any unsuitable routes, such as Station Road, Clay Lane, Torksey Ferry Road and Marton Road (south of the proposed construction access);
- HGV timing restrictions;
- Banksmen and site management;
- Communications strategy;
- Appropriate site access arrangements;
- Necessary escort, permits and traffic management for AILs; and
- Interactions with pedestrians and cyclists.

Road Condition Surveys

- 7.4.2 A road condition survey will be carried out pre-construction, during construction and post-construction, to identify any defects that arise to highways assets/ verges during the construction phase of the Scheme for re-instatement. At this stage, it is proposed to carry out a road condition survey at the following locations within the Order limits (see the study area shown on **ES Volume 2: Figure 13-1** [EN010131/APP/3.2] for reference):

- A156 Gainsborough Road covering the Order limits between the main site access to the north and Willingham Road to the south, as well as the

Order limits associated with the two proposed access points on the A156 High Street;

- B1241 Kexby Lane covering the Order limits associated with the two proposed access points;
- A1500 Stow Park Road covering the Order limits associated with the two proposed access points;
- Cottam Road covering the Order limits associated with the two proposed access points;
- Cow Pasture Lane covering the Order limits associated with the proposed eastern access and vehicle crossover; and
- Headstead Bank covering the Order limits associated with the two proposed access points.

7.4.3 In addition, a separate road condition survey will be carried out for the abnormal vehicle route for the transformer to the Solar and Energy Storage Park, covering the route between the A15/ A1500 roundabout and the proposed site access on the A156 i.e. via the A1500. This will be used to identify any defects that arise to highways assets/ verges as a result of these abnormal loads for re-instatement, including at the A156/ A1500 junction. As above, this survey would be carried out both before and after any abnormal loads travel on the network.

Delivery Management System

7.4.4 A Delivery Management System (DMS) will be implemented to control bookings of HGV deliveries from the start of the construction period. This will be used to regulate the arrival times of HGVs via timed delivery slots, as well as to monitor compliance of HGV routing which will be communicated to all suppliers. In addition, measures will be in place to ensure no queuing back from accesses onto the surrounding road network occurs.

Traffic Management and Monitoring

7.4.5 A Traffic Management and Monitoring System (TMMS) will be developed to provide details of the technologies and other means employed to monitor HGV movements to/ from the site e.g. Global Positioning System (GPS) and Automatic Number Plate Recognition (ANPR). This will enable the Applicant to monitor the following:

- Compliance with the HGV routes;
- Compliance with the number of HGV limits in terms of number of deliveries arriving and departing at any one time and over the course of the day; and
- Compliance with the timing restrictions.

7.4.6 In addition, the TMMS will also record all LGVs which enter and exit the Site, to allow all vehicles to be monitored. In the instance that a complaint has been made in relation to inappropriate routes being used, then this will be cross-referenced with the TMMS to allow appropriate actions to then be taken.

- 7.4.7 The precise form of TMMS would be determined following the appointment of a contractor and will include a summary of the contractual requirements which those visiting the Site will have to adhere to, along with the measures to be taken for non-compliance.

HGV Routes

- 7.4.8 HGVs will be required to comply with the proposed routing strategy (**ES Volume 2: Figure 13-3 [EN010131/APP/3.2]**) in accordance with the DMS and TMMS. The following strategies will be applied:
- Routing strategy for HGVs (excluding abnormal vehicles) for the Solar and Energy Storage Park;
 - Routing strategy for HGVs (including abnormal vehicles) for the Grid Connection Corridor; and
 - Routing strategy for abnormal vehicles for the Solar and Energy Storage Park, as informed by the Collett report (Annex D) and summarised further below.
- 7.4.9 In the case of exceptional circumstances where the proposed routing to the Site is compromised due to an incident or road closure for example, then it is considered acceptable for HGVs to be redirected via an alternative route or to deliver outside of the established scheduling if required.

HGV Timing Restrictions

- 7.4.10 To reduce the potential impact of HGV deliveries, the arrival and departure times will be managed to minimise the number of HGVs travelling to the Site during the network peak hours for the local highway network; identified within the TA (**ES Volume 3: Appendix 13-D [EN010131/APP/3.3]**) as 08:00-09:00 and 17:00-18:00. For example, HGVs could be delayed in the afternoon to avoid being released from the Site during the PM network peak hour.
- 7.4.11 The timing restrictions, considered likely to be implemented at this stage are:
- Avoiding arrivals or departures on a weekday between 08:00-09:00 and 17:00-18:00;
 - No arrivals or departures on a Saturday before 08:00 or after 13:00; and
 - No arrivals or departures on Sundays or public holidays.
- 7.4.12 The restrictions imposed on deliveries by HGVs will be set out within the DMS and TMMS.

Banksmen and Site Management

- 7.4.13 Suitably qualified banksmen will be positioned at the proposed site accesses for the Solar and Energy Storage Park, and at the proposed site accesses for the Grid Connection Corridor, and at internal crossing points when required, to allow vehicle arrivals and departures, as well as internal vehicle movements to be safely controlled during the construction period. This includes the network of internal access routes and the PRoW crossing points within the Site. Visibility will be maximised between construction vehicles and

other users at the crossing points (through hedgerow clearance for example), and advanced signage will be provided to warn users of the potential presence of construction vehicles and crossing points. Manned controls will be provided at each crossing point (including marshals/banksmen and gates), with a default priority that construction traffic will give-way to other users.

Communications Strategy

- 7.4.14 A Communications Strategy will be developed by the Applicant to ensure that the measures contained within the Detailed CTMP(s) are communicated to the workforce. This would include an information pack setting out the contractual requirements which will be provided to the applicants. Furthermore, regular meetings will be held with contractors to discuss HGV management and to address any issues associated with travel to / from the Site as well as to relay information including any restrictions and requirements which should be followed.

Site Access Arrangements

- 7.4.15 The site access layouts have been designed to accommodate HGVs as shown by the vehicle swept paths held in Annex A and Annex B. A hardstanding surface will be provided at the proposed accesses to ensure the weight of the HGVs can be accommodated. In addition, wheel washing facilities will be provided at every access to minimise mud from being trafficked onto the highway.
- 7.4.16 Vegetation clearance will be carried out at the proposed site accesses, where required in order to achieve appropriate levels of visibility, subject to agreement with the local highway authorities.

Abnormal Vehicles

- 7.4.17 As set out previously, a specialised haulage service will be employed to allow AILs to be transported, with the necessary escort, permits and traffic management in place. The relevant contractor will consult with the relevant highways authorities to ensure the correct permits are obtained. The police will also be given advanced notification under the Road Vehicle Authorisation of Special Types Order 2003.

Pedestrians and Cyclists

- 7.4.18 The **Outline PRow Management Plan [EN010131/APP/7.8]** sets out the measures which have been included as embedded mitigation within the ES, to minimise the traffic impacts of the Scheme on pedestrians and cyclists during the construction and decommissioning phases. It should be noted that all pedestrian and cycle routes will be maintained and remain unobstructed at all times when in use, to ensure the continued safe passage of the public including when using the PRow through the Site and at crossing points. The measures will be secured through the DCO, primarily by this document, as well as via the **Framework CEMP [EN010131/APP/7.3]**.

7.5 Staff Vehicle Measures and Controls

- 7.5.1 Staff movements will be managed through the implementation of the following measures:
- Limited car parking;
 - Car sharing;
 - Staff arrival and departure times;
 - Shuttle service providing transport between local settlements and the Solar and Energy Storage Park, and between the Park and the Grid Connection Corridor; and
 - Minibus service transferring staff between the Solar and Energy Storage Park and the Grid Connection Corridor.

Limited Car Parking

- 7.5.2 The proposed car park for the Solar and Energy Storage Park will be situated within the main construction compound accessed via the proposed main site access on the A156 Gainsborough Road. The capacity of the car park is set to be limited to 100 vehicles, to accommodate (but limit) the expected parking demand of construction staff within the Solar and Energy Storage Park during the peak period, with additional parking available for shuttle buses. The usage of the car park will be monitored and the potential to introduce additional parking will be explored during peak construction if required.
- 7.5.3 No car parking spaces will be provided for construction workers within the construction compounds serving the Grid Connection Corridor, as staff will be transferred to and from this part of the Site via minibus after utilising the car parks within the Solar and Energy Storage Park construction compounds.

Car Sharing

- 7.5.4 To reduce the potential impact of vehicles associated with the local staff during the construction period, the Applicant will implement measures to encourage car sharing to reduce the number of vehicles travelling to/ from the Site each day. The benefits of car sharing will be promoted to encourage multi-occupancy vehicle use, such as reduced fuel costs and ease of parking with guaranteed spaces for those car-sharing within the compounds. A Car Share Scheme will be implemented to match potential sharers and to help staff identify any colleagues who could potentially be collected along their route to/ from the Site. The limited car parking and the use of the shuttle service will encourage staff to travel together.
- 7.5.5 For the Solar and Energy Storage Park, a robust minimum occupancy rate of 1.3 persons per vehicle for local staff (an assumption adopted within the TA **(ES Volume 3: Appendix 13-D [EN010131/APP/3.3])**) is expected; however, the aspiration is to achieve a higher average occupancy level to further reduce the impact of the development on the local network and the SRN. The staffing requirement and occupancy for the Grid Connection Corridor is inclusive within the overall site, given that staff will be transferred to/ from the Grid Connection Corridor by minibus.

Staff Arrivals and Departures

- 7.5.6 The proposed working hours of staff are set out below.
- Summer 12-hour shift (07:00-19:00)
 - Winter 10-hour shift (08:00-18:00)
- 7.5.7 The network peak hours for the local highway network are 08:00-09:00 and 17:00-18:00 (see the TA **(ES Volume 3: Appendix 13-D [EN010131/APP/3.3])** for further details). Construction workers will be expected to arrive in the hour before the start of their shift and to depart in the hour after the end of their shift. Based on the above, all staff are expected to avoid the network peak hours. The proposed working hours are therefore designed to minimise additional trips at the busiest times in terms of trips on the surrounding highway network. In the instance that any on-site works are conducted outside of the above working hours, then these will comply with the any restrictions agreed with the relevant planning/ highway authorities.
- 7.5.8 To minimise additional vehicle trips on local roads, construction staff will be directed to take routes to the Site by using the main routes such as the A631 to the north, and A57 to the south, and the A156 which will provide direct access to the Solar and Energy Storage Park.

Shuttle Service

Non-Local Staff staying in Nearby Accommodation

- 7.5.9 A shuttle service (each with capacity for 50 staff) will be used to transport 55% of construction staff (220 persons) staying within local accommodation at the four main centres in the vicinity of the Site; considered to be Gainsborough (north), Lincoln (south), Retford (west) and Newark on Trent (also south) to/ from the Solar and Energy Storage Park. It is assumed that an average of 55 staff would reside within each of the four areas (as indicated) and two shuttle services would therefore be required to/ from each area equating to a total of eight shuttle services in the morning (16 movements) and eight shuttle services in the evening (16 movements). All shuttle services will travel to/ from the main site access on the A156 Gainsborough Road and it has been assumed that 50% shuttle services would travel via the A156 to the north (for Gainsborough and Retford) and 50% would travel via the A156 to the south (for Lincoln and Newark on Trent).
- 7.5.10 In relation to the shuttle service provision, if additional demand is identified by the monitoring carried out as part of the Detailed CTMP(s) then additional shuttle services will be provided to accommodate these and to further reduce the number of construction staff vehicles on the network.
- 7.5.11 The following assumptions have been adopted for the shuttle service which will be provided for non-local staff travelling to/ from the site:
- The shuttle services will travel between the Solar and Energy Storage Park and local settlements to transfer all non-local staff to and from the Site each day;

- The shuttle services will depart from the Solar and Energy Storage Park to pick-up construction workers from local settlements and return to Site within the hour prior to the start of a shift;
- The shuttle services will depart from the Solar and Energy Storage Park to drop-off construction workers back at each local settlement within the hour after the completion of a shift (before returning back to the Site);
- The shuttle services will each be expected to have a typical occupancy of 25-30 people when transferring construction workers; and
- A shuttle service round-trip (e.g. from the Solar and Energy Storage Park to local worker accommodation in Lincoln or Gainsborough for example, and then back to the Site) is expected to take around 15-30 minutes on average (it has been assumed that a shuttle service would both depart and return during the same hour).

7.5.12 The above is designed to minimise vehicle trips on the surrounding highway network as far as possible.

Internal Movements

7.5.13 Minibuses will be used to transport staff around the Solar and Energy Storage Park by making use of the internal routes to travel between the main compound and the secondary compounds. This will minimise trips within the Solar and Energy Storage Park and will also avoid trips on the surrounding highway network between the site accesses.

7.5.14 Further to the above, a minibus will be used to transfer staff between the Solar and Energy Storage Park and the Grid Connection Corridor.

7.6 Cottam and West Burton solar projects and Gate Burton Energy Park Combined Mitigation

7.6.1 The opportunity to combine mitigation (including some of the above measures) for the West Burton Solar Project and Cottam Solar Project schemes (see Section 3) will be explored in order to reduce cumulative impacts during the construction phase. This could include sharing the shuttle service to transport construction workers to/ from multiple sites or sharing the Grid Connection Corridor and construction compounds to consolidate trips. Further details will be set out within the Detailed CTMP(s) or potentially as part of a joint CTMP post-consent once further details in relation to the Cottam and West Burton solar projects schemes are known e.g. project timeframes and the approach for the shared Grid Connection Corridor.

7.7 Management Structure

7.7.1 The overall management and implementation of this Framework CTMP and the Detailed CTMP(s) will be the responsibility of the Applicant. A Transport Co-ordinator will be appointed by the Applicant to implement, manage and develop the Detailed CTMP(s) at the appropriate time/ stage. The Detailed CTMP(s) will include the following information:

- Specifics of carriageway widening or improvement works;

- Specifics of the design of TTM measures;
- Details of the works to accesses, including provision of visibility splays;
- Further details in respect of the design and management measures required to accommodate AILs; and
- Information on sanctions for breaches of the routing strategies.

7.7.2 The Transport Co-ordinator who takes responsibility for implementing the CTMP will:

- Implement and monitor the CTMP to identify successful measures and areas for improvement;
- Promote the CTMP to all staff and contractors travelling to and from the Site to ensure compliance with its contents;
- Liaise as appropriate with local transport and traffic groups, local planning authorities and local highway authorities and National Highways;
- Monitor data relating to HGV routes, timing of HGV arrivals and departures and compliance with the DMS/ TMMS;
- Manage the Car Share Scheme;
- Manage the shuttle service between local worker accommodation and the Solar and Energy Storage Park (as well as the minibus to/ from the Grid Connection Corridor); and
- Discuss any issues with relevant parties and identify any amendments to the CTMP (including measures) to ensure compliance is maintained.

7.8 Monitoring and Review

HGVs

7.8.1 The Detailed CTMP(s) will be monitored and revised to ensure that contractors are complying with the document. This process will be led by the Transport Co-ordinator.

7.8.2 The Transport Co-ordinator will monitor data relating to HGV routes, timing of HGV arrivals and departures and compliance with the DMS/ TMMS. The results of the data monitoring will be reported to identify any issues which need to be resolved and any additional measures which should be implemented to these from arising again. The reports will be shared with the Applicant, local authority and the highway authorities (i.e. LCC and NCC Highways).

Staff Vehicles

7.8.3 A Car Share Scheme will be implemented and managed by the Transport Co-ordinator, to match potential car sharers and to help staff identify any colleagues who could potentially be collected along their route to/ from the Solar and Energy Storage Park. The car share database will also be available to staff that have signed up, to allow them to identify their own

potential matches. Car sharing staff will be allocated spaces within the main construction compound so that they are guaranteed a parking space upon arrival.

- 7.8.4 Construction staff vehicles will be monitored when entering and exiting the Site. This monitoring will determine whether any additional measures should be explored to minimise staff trips on the local highway network.
- 7.8.5 Construction staff will be directed to available parking bays upon arrival to assist them to park in a timely manner. Given the working patterns identified, it is expected that the car park for the Solar and Energy Storage Park will be managed between 06:00-08:00 in the summer and between 07:00-09:00 in the winter, when the majority of staff are expected to arrive. Appropriate signage will be provided to clearly identify the entry and exit points to the car parks. It should be noted that the usage of the car park will be monitored and that the potential to introduce additional parking will be explored during peak construction if required.

Additional Monitoring

- 7.8.6 The following monitoring will also be carried out during the construction phase of the Scheme, and secured as part of the Framework and/ or Detailed CTMP(s):
- Construction vehicles (HGVs) will be monitored to ensure HGV drivers are adhering to the proposed routing strategy (**ES Volume 2: Figure 13-3 [EN010131/APP/3.2]**); and
 - Road safety will be monitored within the Site including at the proposed access points and at the internal PRow crossing points.

8. Compliance and Enforcement

8.1 Introduction

8.1.1 This section of the Framework CTMP provides a summary of the mechanisms that will be implemented to maximise compliance with the CTMP.

8.2 Best Practice

8.2.1 The Applicant will use internal management procedures to maximise compliance and its enforcement with the requirements of this Framework CTMP and Detailed CTMP(s), including:

- Contractor kick-off meetings: contractors will be reminded of the Applicant's standards and expectations as set out in contract documentation.
- Site induction: drivers will be briefed on the aims and objectives of the CTMP, including the booking system, designated routes and expected driver behaviour. A copy of the CTMP will be provided to each contractor to provide details of how the site will be managed as well as the rules and regulations.
- Reporting: incidences of non-compliance will be investigated within the CTMP. Reports from each incident will be raised and shared with the relevant contractor. The CTMP will be updated where necessary to resolve any ongoing issues.

8.3 Contractual Conditions

8.3.1 Each contractor will be provided with a contract setting out their contractual requirements in terms of compliance with the Framework and/ or Detailed CTMP(s) upon appointment. A copy of the CTMP will be provided along with details of the proposed routing strategy for HGVs to ensure that this route is followed.

8.4 Information Packs and Communications

8.4.1 Information packs will be provided to all contractors once they have been confirmed. The information pack will form part of the agreement between the Applicant and the designated contractors. The information pack will include details of the following:

- Code of Good Practice;
- Details of the Transport Co-ordinator;
- Delivery routing restrictions;
- Worker routing;
- Emergency procedures;
- Non-compliance guidance; and

- Complaint procedures.

8.5 Enforcement

8.5.1 The Applicant will take all reasonable steps to avoid any breach of the CTMP through the implementation of the management measures. However, should any breaches occur, then enforcement procedures will be followed:

- The Transport Co-ordinator will notify the Applicant of any breaches of the CTMP arrangements as and when they occur.
- The Applicant will issue a warning letter to the relevant contractor outlining what action would be taken in the event of any further non-compliance (in general terms).
- The Applicant will report the details of the response to the Transport Co-ordinator as part of the monitoring report. The monitoring report will be made available to the relevant local planning authorities and relevant highway authorities at their request to ensure compliance and to demonstrate that action is being taken where necessary.

8.5.2 Further detail on the sanctions which could be applied will be included within the Detailed CTMP(s).

9. Conclusion

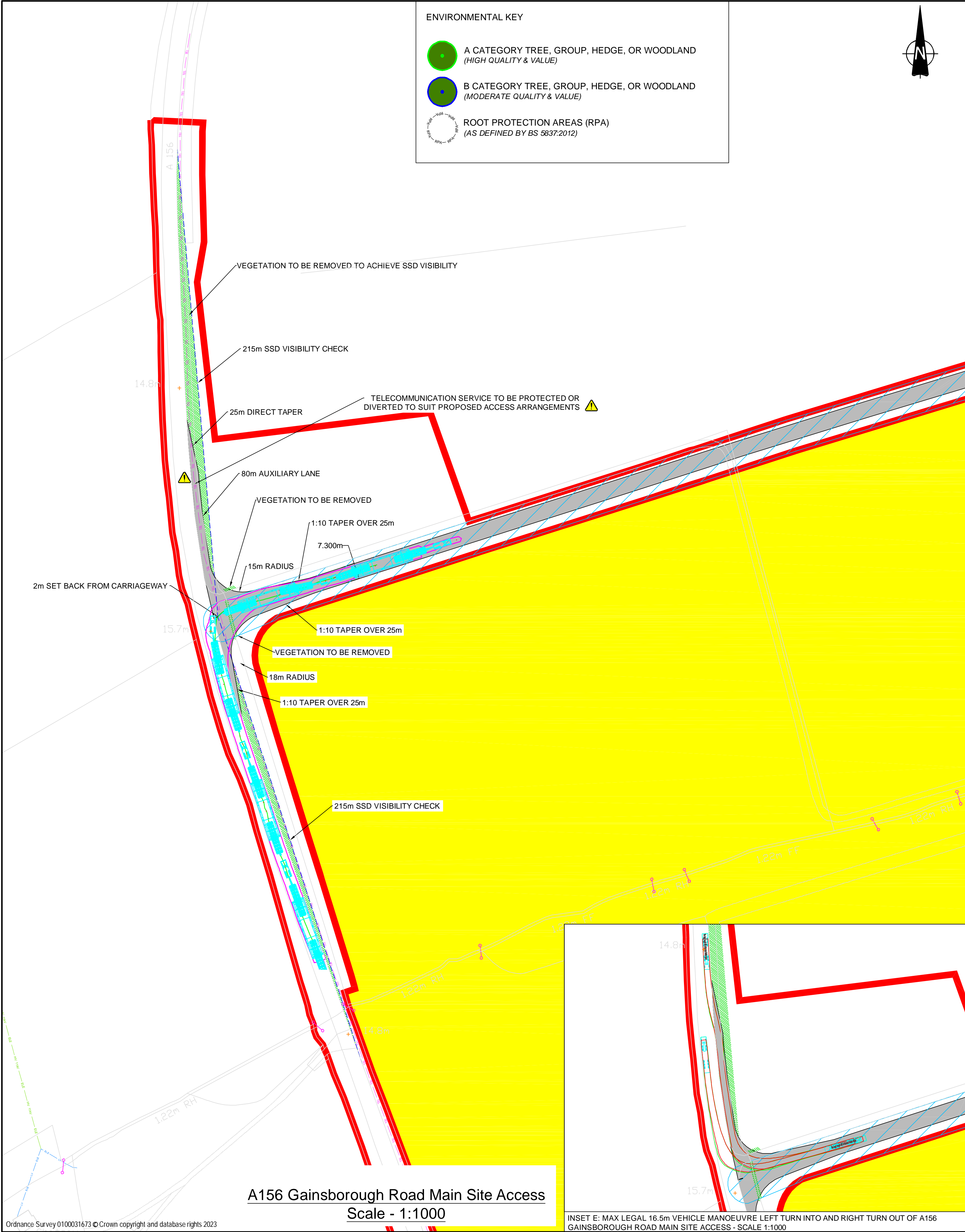
- 9.1.1 The purpose of this Framework CTMP is to focus on the management of construction traffic along the local highway network within the vicinity of the Site during the construction period of the works, in order to limit any potential disruptions and implications on the wider transport network. The **Outline PRow Management Plan [EN010131/APP/7.8]**, identifies PRow to be potentially affected by the proposals and sets out measures to mitigate any impacts.
- 9.1.2 This Framework CTMP sets out the proposals to manage construction traffic and staff vehicles during the construction of the Scheme. It identifies the management of freight traffic i.e. Heavy Goods Vehicles (HGVs), as well as construction staff vehicles.
- 9.1.3 It should be noted that as this is a framework document, certain details will remain to be developed as the Scheme progresses into detailed design. The full details of all measures may not be available until after consent for the Scheme has been granted and will be provided within the Detailed CTMP(s) as necessary.

Annex A. Proposed Site Access Layouts, Visibility Splays and Swept Paths (Solar and Energy Storage Park)

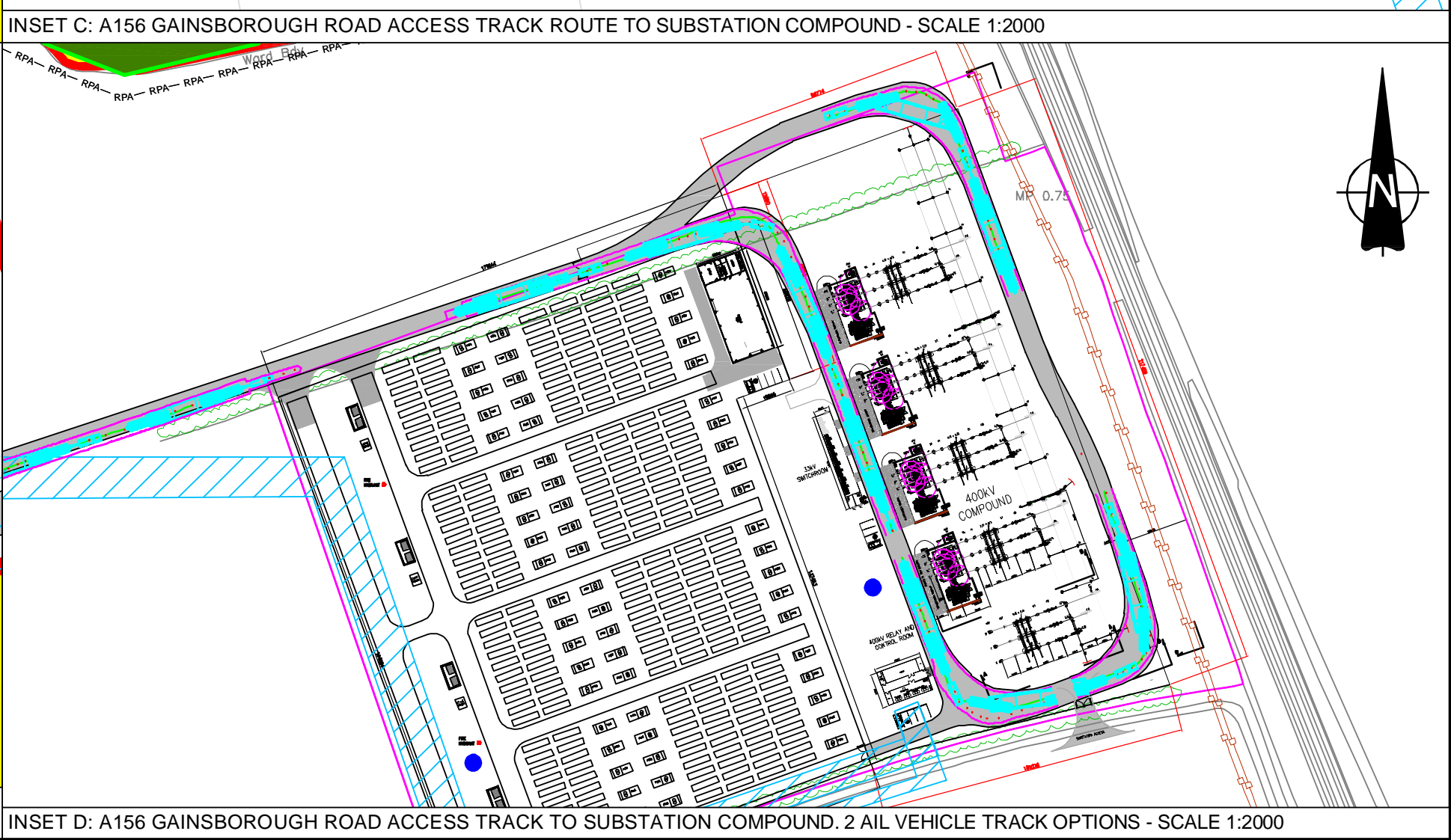
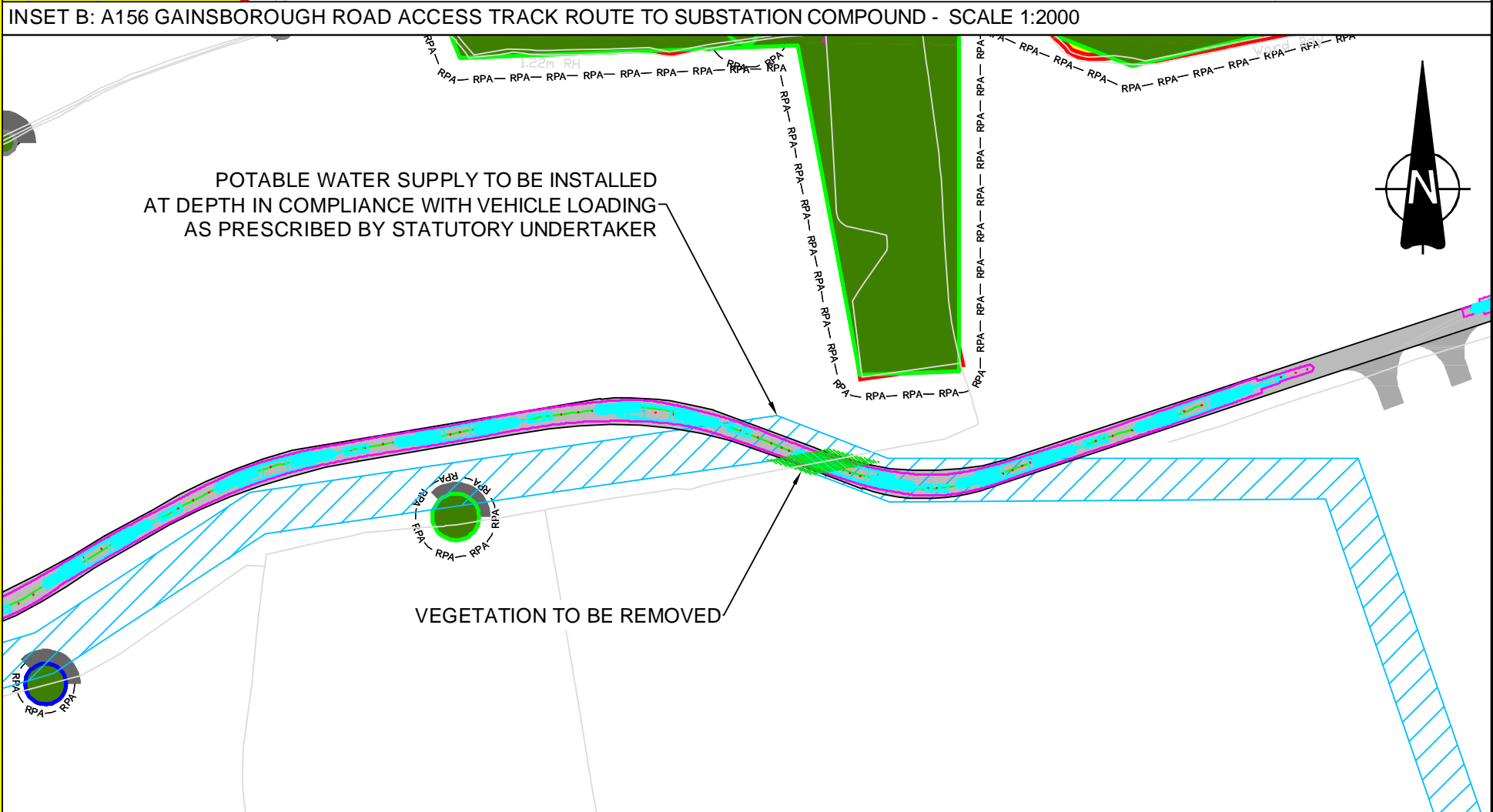
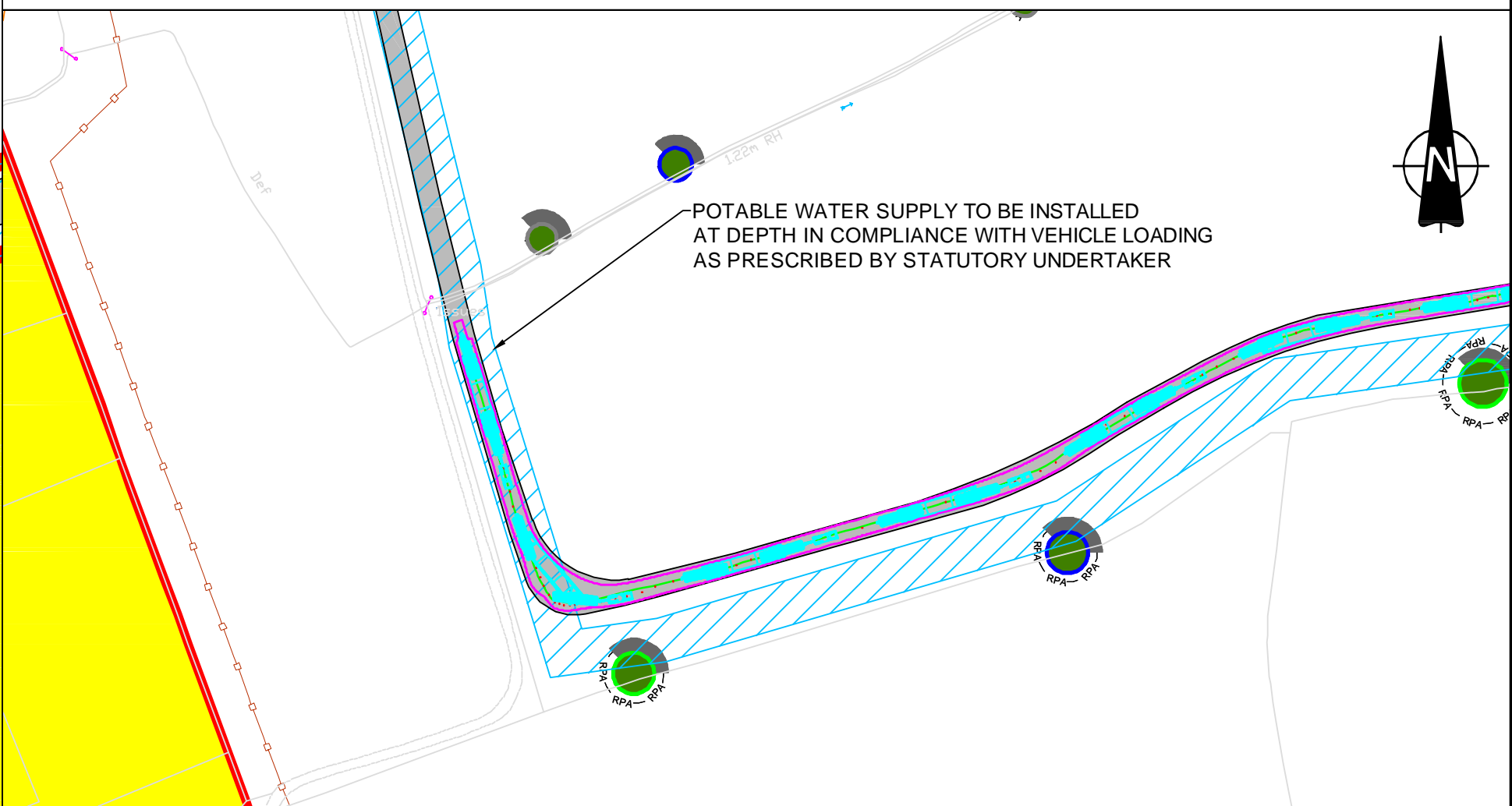
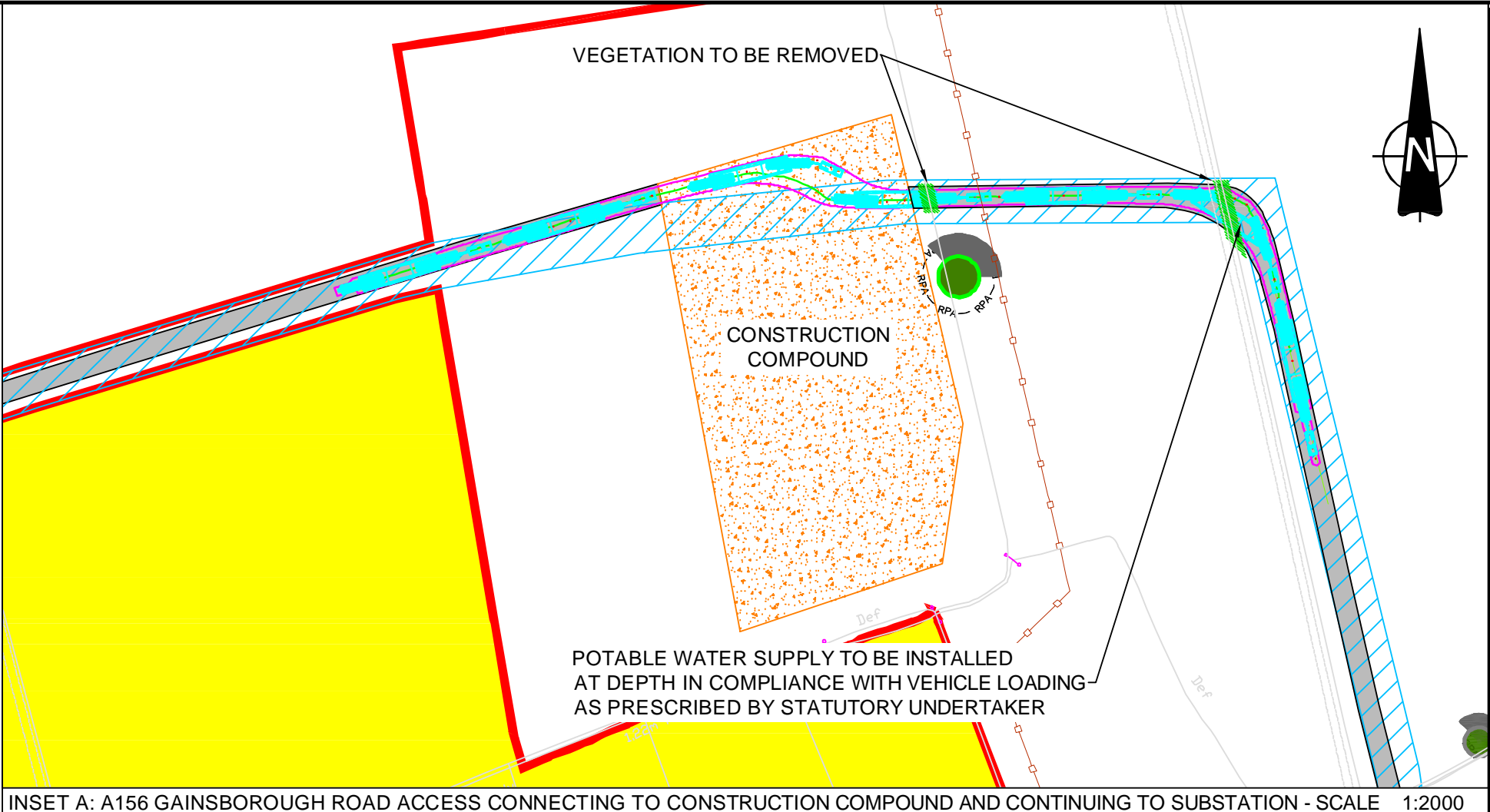
ISO A1 594mm x 841mm
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 Checked: JH
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 Last saved by: MICHAEL PARIS(2023-01-24) Last Plotter: 2023-05-22
 Filename: C:\USERS\MICHAEL.PARIS\AECOM\GATE BURTON ENERGY PARK - 900_CAD_GIS\HIGHWAYS\DRAWINGS (CAD)\60664324-HGN-DR-CH-0015 A156 GAINSBOROUGH ROAD ACCESS.DWG

ENVIRONMENTAL KEY

- A CATEGORY TREE, GROUP, HEDGE, OR WOODLAND (HIGH QUALITY & VALUE)
- B CATEGORY TREE, GROUP, HEDGE, OR WOODLAND (MODERATE QUALITY & VALUE)
- ROOT PROTECTION AREAS (RPA) (AS DEFINED BY BS 5837:2012)



A156 Gainsborough Road Main Site Access
 Scale - 1:1000



INSET E: MAX LEGAL 16.5m VEHICLE MANOEUVRE LEFT TURN INTO AND RIGHT TURN OUT OF A156 GAINSBOROUGH ROAD MAIN SITE ACCESS - SCALE 1:1000

INSET D: A156 GAINSBOROUGH ROAD ACCESS TRACK TO SUBSTATION COMPOUND. 2 AIL VEHICLE TRACK OPTIONS - SCALE 1:2000



PROJECT
 Gate Burton Energy Park
 Development Consent Order

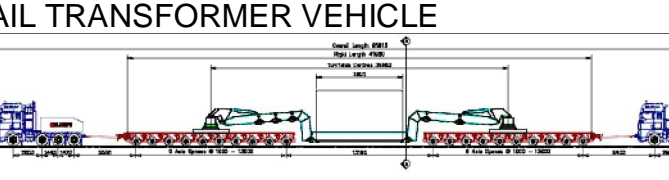
CLIENT
 Low Carbon

CONSULTANT
 AECOM
 Saxon House, 27 Duke Street
 Chelmsford, Essex, CM1 1HT
 01245 771200 tel 01245 476121 fax
 www.aecom.com

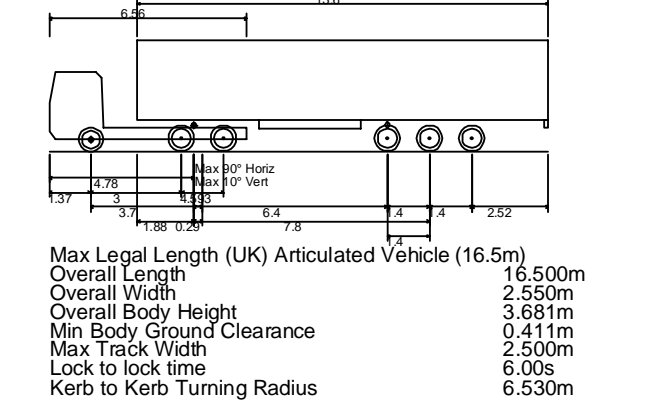
GENERAL NOTES

KEY

- Proposed potable water supply
- Vegetation to be removed
- Extent of paved area
- Red Line Boundary

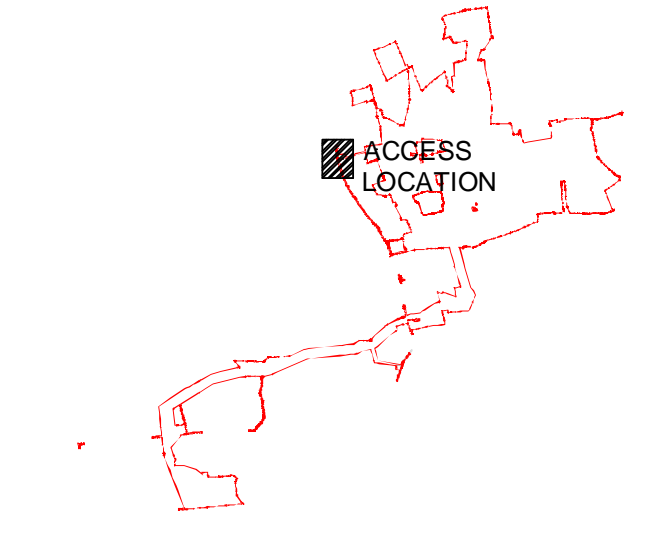


Loaded vehicle dimensions	
Overall vehicle length	66.81m
Rigid length	41.89m
Width	2.95m
Height	4.71m
Gross Vehicle Weight Em. Tractor Units	333 917t
Maximum axle weight	16 891t



Max Legal Length (UK) Articulated Vehicle (16.5m)
 Overall Length 16.500m
 Overall Width 2.550m
 Overall Body Height 3.881m
 Min Body Ground Clearance 0.411m
 Max Truck Width 2.500m
 Lock to lock time 6.00s
 Kerb to Kerb Turning Radius 6.530m

SHEET PLAN



ISSUE/REVISION

NO	DATE	DESCRIPTION
P03	24-01-2023	Updated station layout
P02	06-01-2023	Updated to address review comments
I/R	DATE	DESCRIPTION

PROJECT NUMBER
 60664324

SHEET TITLE
 A156 GAINSBOROUGH ROAD LAYOUT AND SWEEP PATH ANALYSIS

SHEET NUMBER
 60664324-HGN-DR-CH-0015

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PROJECT

Gate Burton Energy Park
Development Consent Order

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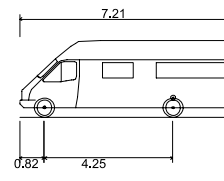
CONSULTANT

AECOM
Saxon House, 27 Duke Street
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01245 771200 tel 01245 476121 fax
www.aecom.com

GENERAL NOTES

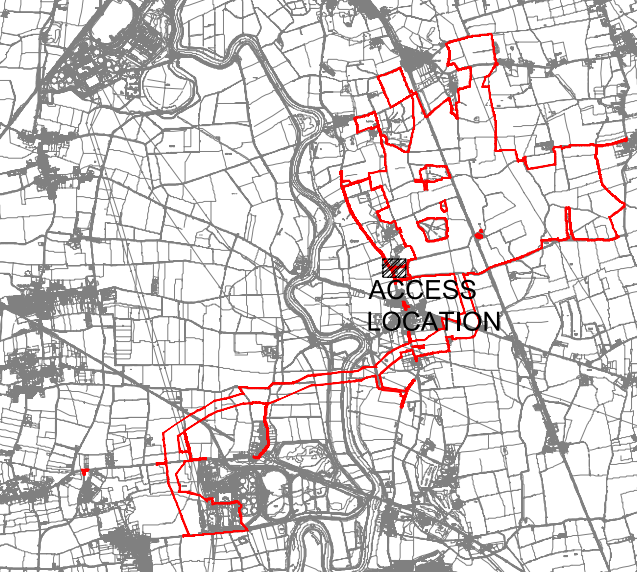
KEY

— Red Line Boundary



7.5t Panel Van	7.210m
Overall Length	7.210m
Overall Width	2.192m
Overall Body Height	2.344m
Min Body Ground Clearance	0.316m
Track Width	1.865m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m

SHEET PLAN



ISSUE/REVISION

I/R	DATE	DESCRIPTION

P02 20-12-2022 Updated following internal comments

PROJECT NUMBER

60664324

SHEET TITLE

A156 GAINSBOROUGH ROAD VIA CLAY LANE SWEEP PATH ANALYSIS

SHEET NUMBER

60664324-HGN-DR-CH-0004

ISO A1 594mm x 841mm Approved: IB Checked: JCH Designer: EL Project Management Initials:

Last saved by: ETHAN.LI (2023-01-05) Last Plotted: 2023-01-06
Filename: C:\USER\ETHAN.LI\DESK\TOP\WORK\GSP\2023\01 JAN04-01-2023\60664324-HGN-DR-CH-0004 A156 GAINSBOROUGH ROAD VIA CLAY LANE ACCESS.DWG
Ordnance Survey 0100031673 © Crown copyright and database rights 2023



7.5t PANEL VAN VEHICLE MANOUVRE, HEADING SOUTH ON GAINSBOROUGH ROAD A156 TURNING LEFT INTO CLAY LANE HEADING EAST - SCALE 1:1000



7.5t PANEL VAN VEHICLE MANOUVRE, HEADING WEST OUT OF CLAY LANE TURNING RIGHT ONTO ON GAINSBOROUGH ROAD A156 HEADING NORTH - SCALE 1:1000



7.5t PANEL VAN VEHICLE MANOUVRE, HEADING NORTH ON GAINSBOROUGH ROAD A156 TURNING RIGHT INTO CLAY LANE HEADING EAST - SCALE 1:1000

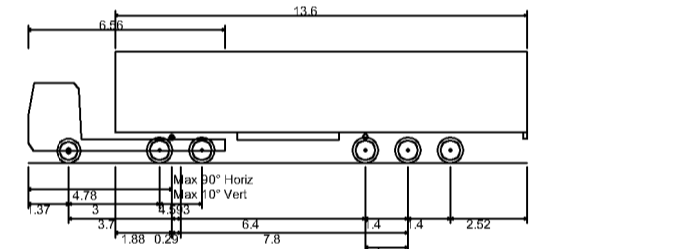


7.5t PANEL VAN VEHICLE MANOUVRE, HEADING WEST OUT OF CLAY LANE TURNING LEFT ONTO ON GAINSBOROUGH ROAD A156 HEADING SOUTH - SCALE 1:1000

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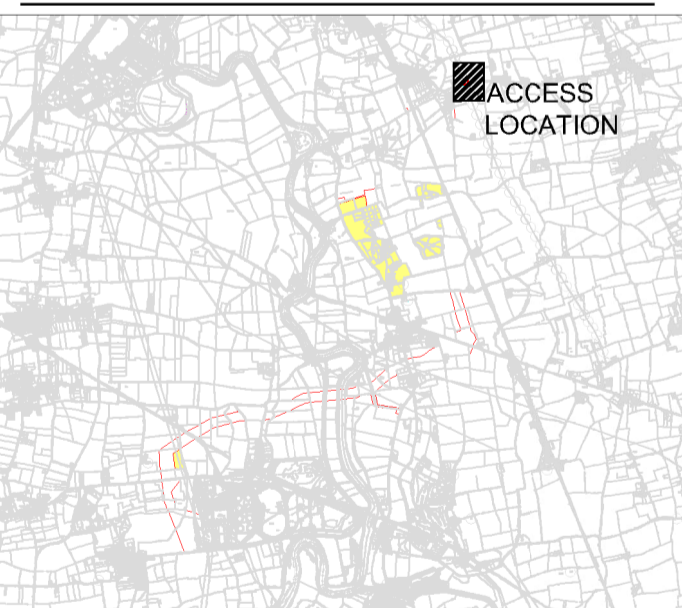
- GENERAL NOTES**
1. This drawing is to be read in conjunction with all other relevant documentation. Do not scale from this drawing, use only printed dimensions.
 2. All dimensions in millimeters, all chainages, levels and coordinates are in meters unless defined otherwise.
 3. This Drawing is to be read in conjunction with the project health & Safety File for any identified potential risks.
 4. Vegetation to be removed denotes any vegetation features (such as hedgerows) that need to be removed to provide the required junction visibility. Any verge grassland is not to be removed but managed by the relevant maintainer to a low height so as to not impact upon junction visibility.

- KEY**
- Vegetation to be removed
 - Extent of paved area
 - Red Line Boundary
 - Existing Public Rights of Way
 - Vehicle body
 - Vehicle body path
 - Vehicle load
 - Vehicle load path
 - Vehicle wheels path
 - Edge of road
 - Land not included in the Order Limits



Max Legal Length (UK) Articulated Vehicle (16.5m)	16.500m
Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

SHEET PLAN



ISSUE/REVISION

NO	DATE	DESCRIPTION
P02	13-07-2023	Updated Visibility SSC Requirement
I/R		

PROJECT NUMBER

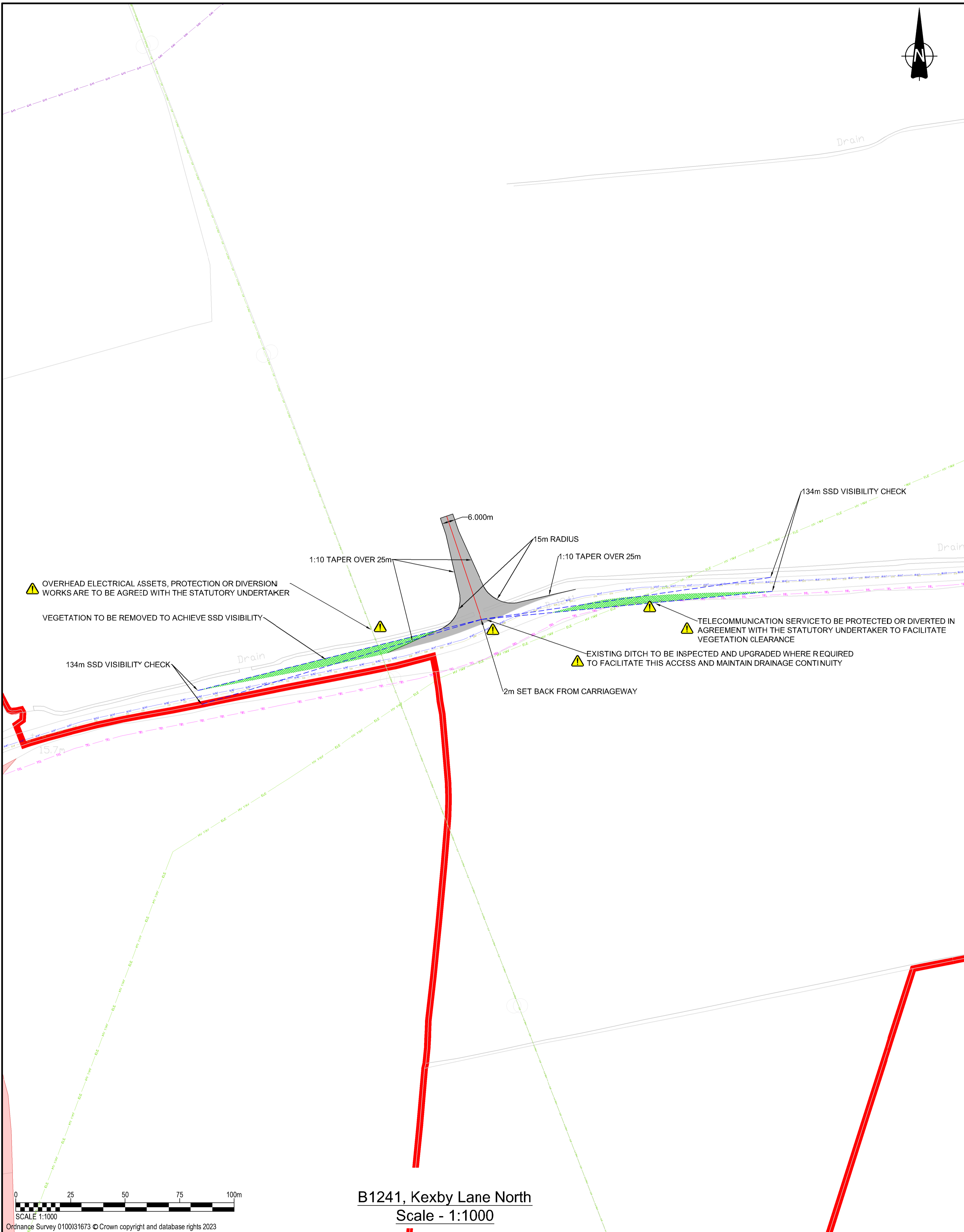
60664324

SHEET TITLE

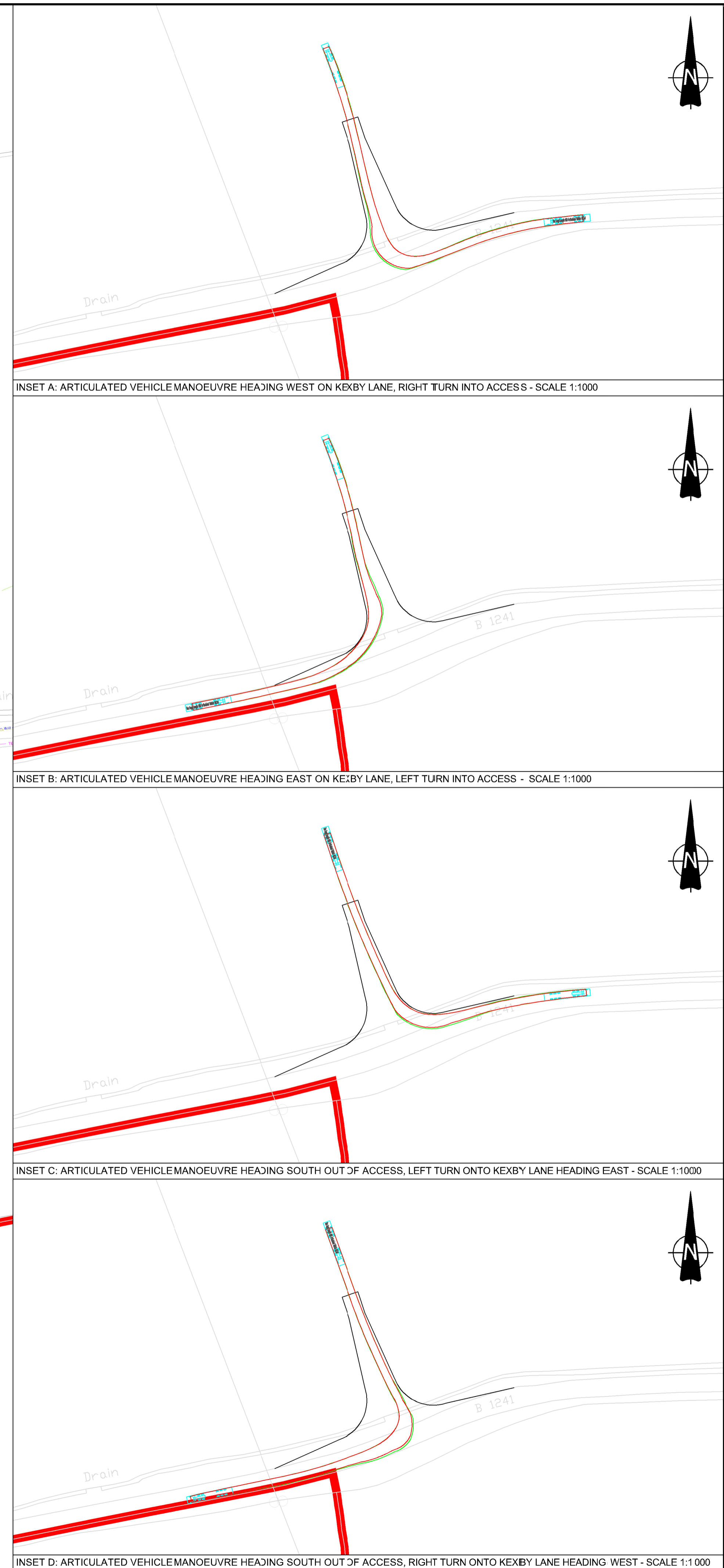
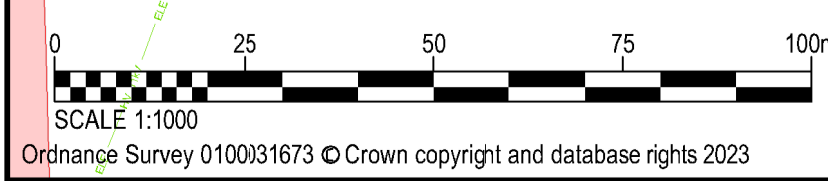
KEXBY LANE NORTH LAYOUT AND SWEEP PATH ANALYSIS

SHEET NUMBER

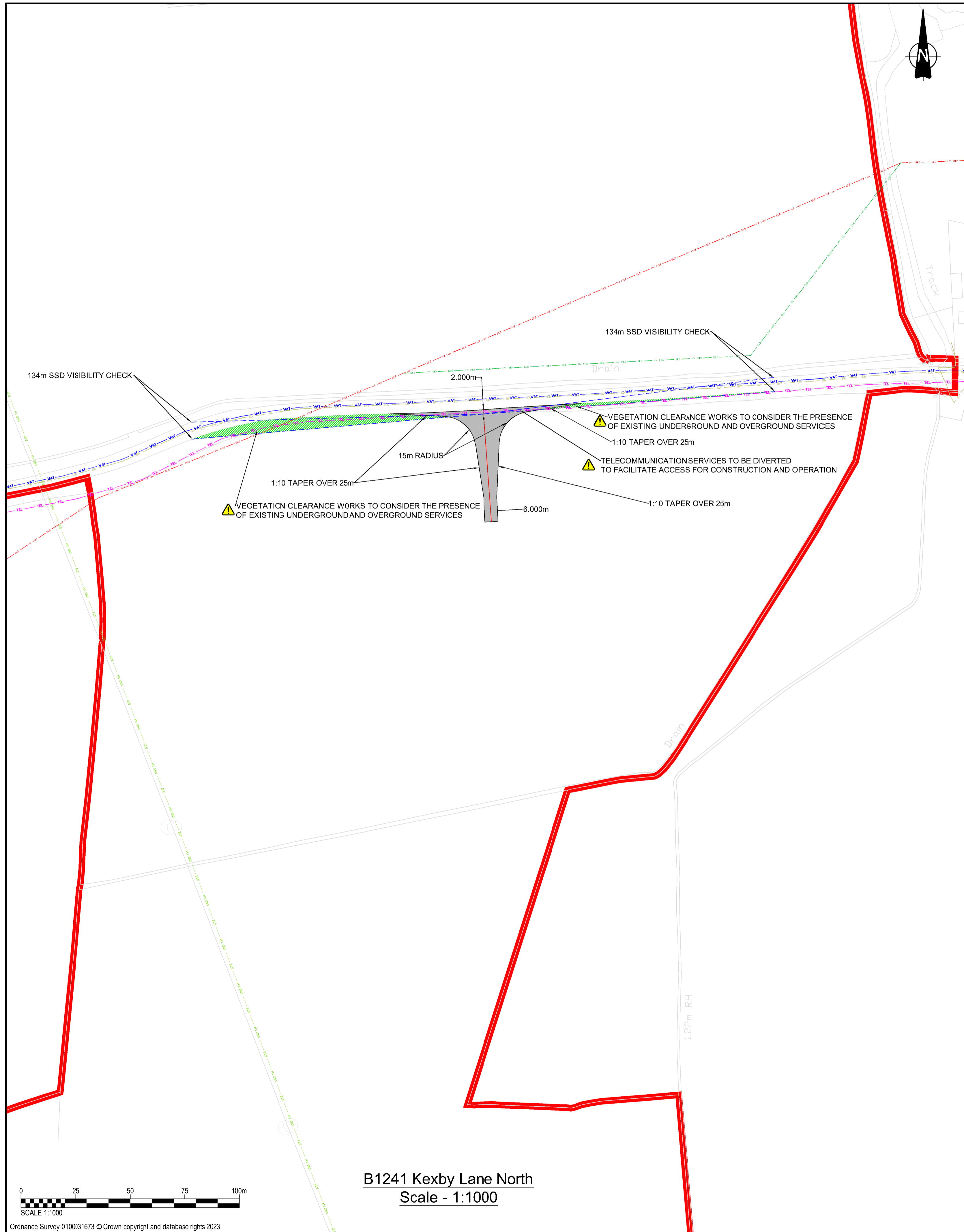
60664324-HGN-DR-CH-0016



B1241, Kexby Lane North
 Scale - 1:1000



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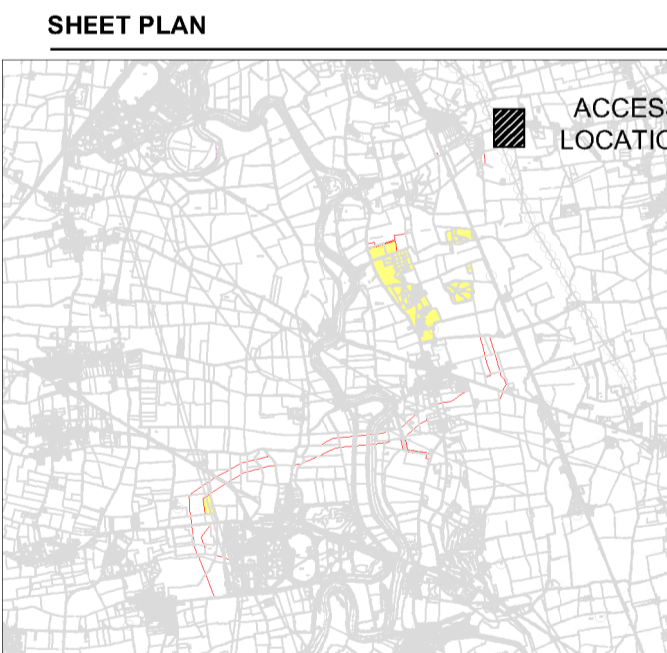
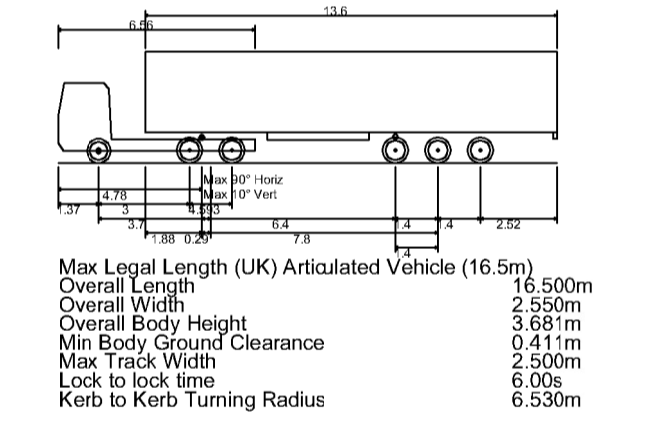
PROJECT
Gate Burton Energy Park
Development Consent Order

CLIENT
Low Carbon

CONSULTANT
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www.aecom.com

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 - All dimensions in millimeters, all chainages, levels and coordinates are in meters unless defined otherwise.
 - This Drawing is to be read in conjunction with the project health & Safety File for any identified potential risks.
 - Vegetation to be removed denotes any vegetation features (such as hedgerows) that need to be removed to provide the required junction visibility. Any verge grassland is not to be removed but managed by the relevant maintainer to a low height so as to not impact upon junction visibility.

- KEY**
- Vegetation to be removed
 - Extent of paved area
 - Red Line Boundary
 - Existing Public Rights of Way
 - Vehicle body
 - Vehicle body path
 - Vehicle load
 - Vehicle load path
 - Vehicle wheels path
 - Edge of road
 - Land not included in the Order Limits



ISSUE/REVISION

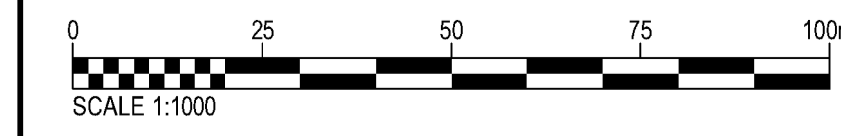
NO	DATE	DESCRIPTION
P03	24-07-2023	Updated Visibility SSI Requirement
P02	06-01-2023	Updated to address review comments
I/R	DATE	DESCRIPTION

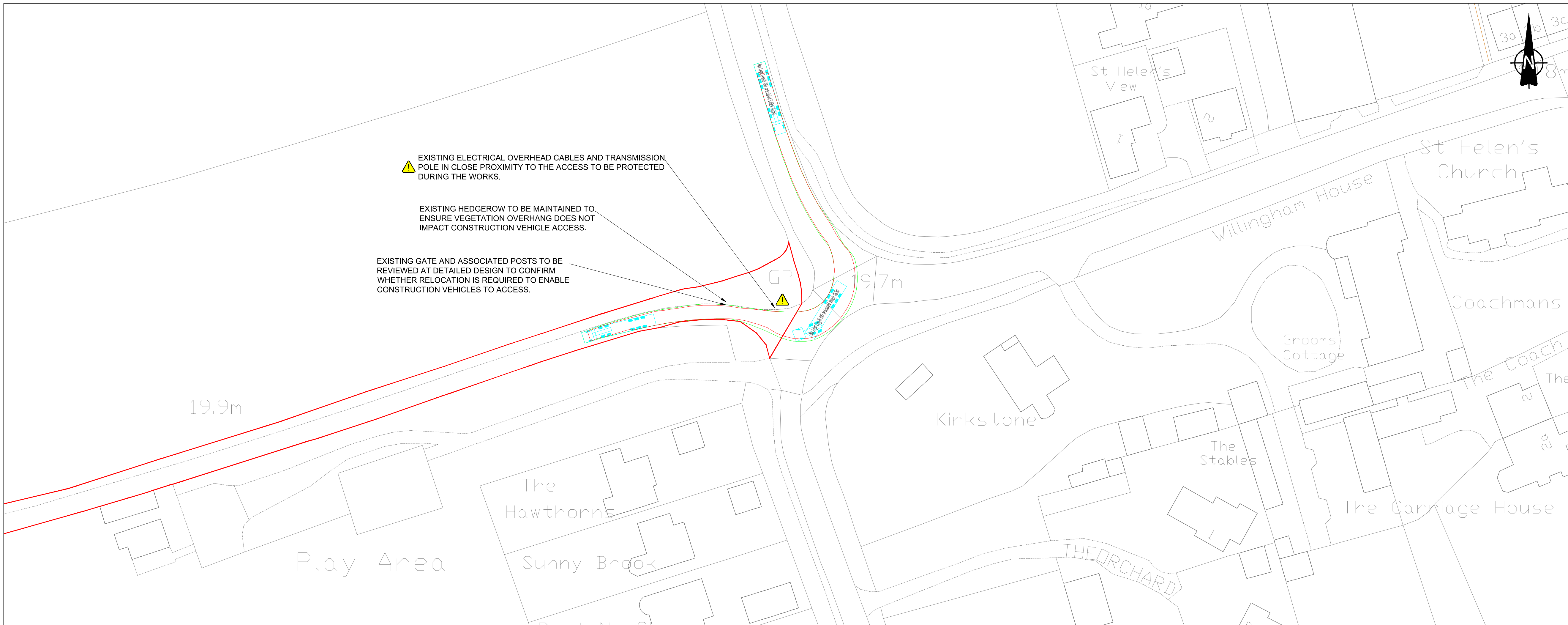
PROJECT NUMBER
60664324

SHEET TITLE
KEXBY LANE SOUTH ACCESS
LAYOUT AND
SWEEP PATH ANALYSIS

SHEET NUMBER
60664324-HGN-DR-CH-0017

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⚠️ EXISTING ELECTRICAL OVERHEAD CABLES AND TRANSMISSION POLE IN CLOSE PROXIMITY TO THE ACCESS TO BE PROTECTED DURING THE WORKS.

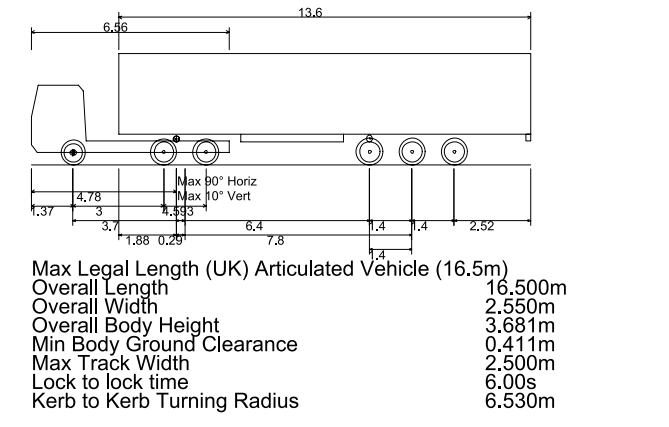
EXISTING HEDGEROW TO BE MAINTAINED TO ENSURE VEGETATION OVERHANG DOES NOT IMPACT CONSTRUCTION VEHICLE ACCESS.

EXISTING GATE AND ASSOCIATED POSTS TO BE REVIEWED AT DETAILED DESIGN TO CONFIRM WHETHER RELOCATION IS REQUIRED TO ENABLE CONSTRUCTION VEHICLES TO ACCESS.

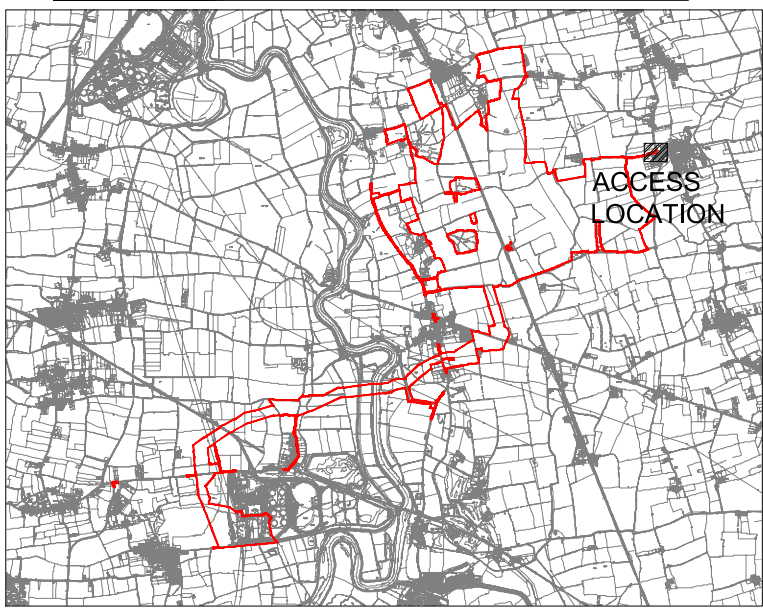
MAX LEGAL LENGTH (UK) ARTICULATED VEHICLE (16.5m) MANOEUVRE, HEADING SOUTH ON B1241 GAINSBOROUGH ROAD, RIGHT TURN INTO MARTON ROAD ACCESS - SCALE 1:500



- KEY**
- Vegetation to be removed
 - Extent of paved area
 - Red Line Boundary
 - Existing Public Rights of Way
 - Vehicle body
 - Vehicle body path
 - Vehicle load
 - Vehicle load path
 - Vehicle wheels path
 - Edge of road



SHEET PLAN



ISSUE/REVISION

NO	DATE	DESCRIPTION
P02	05-01-2023	Updated to address review comments
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60664324

SHEET TITLE

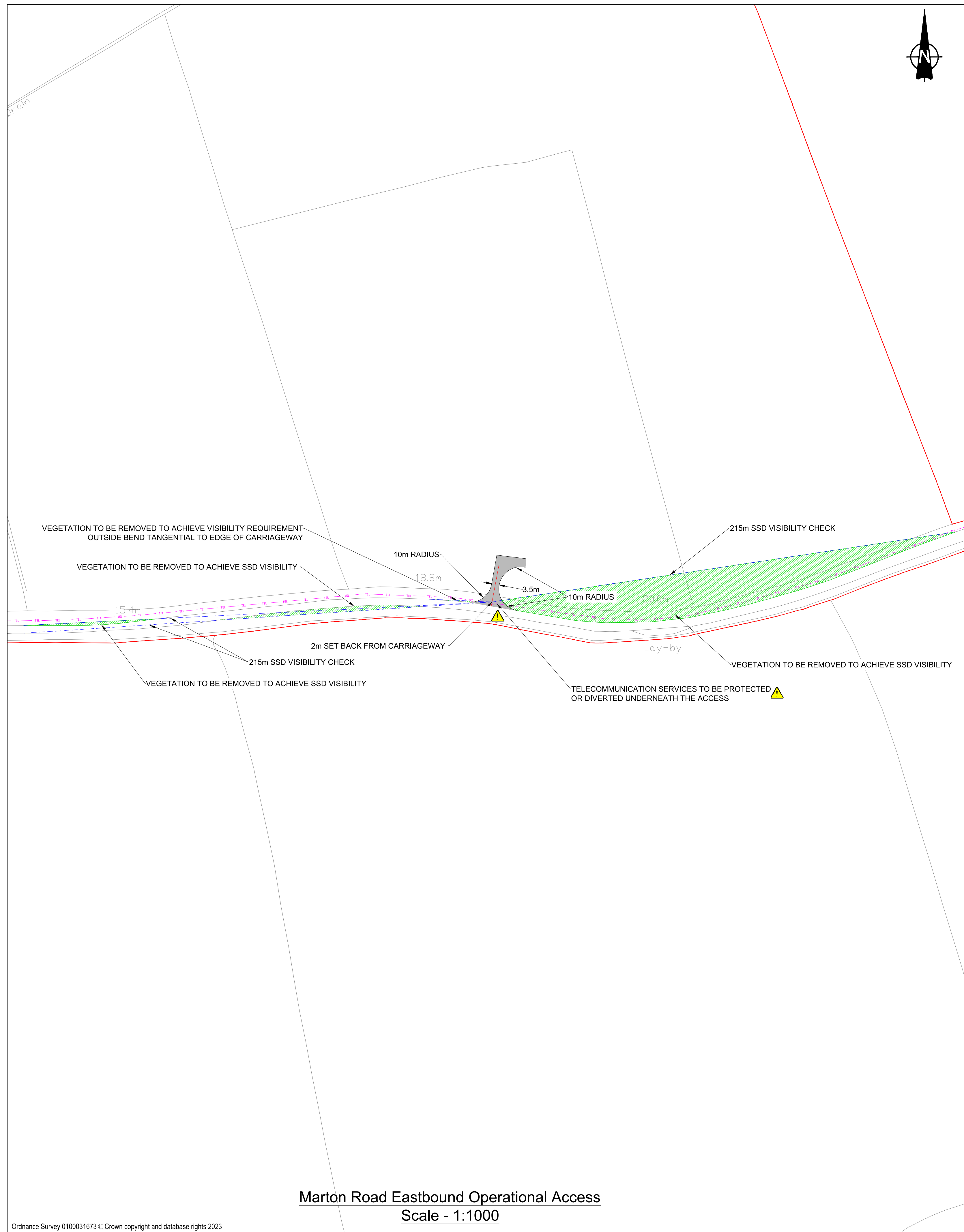
MARTON ROAD
 SWEEP PATH ANALYSIS

SHEET NUMBER

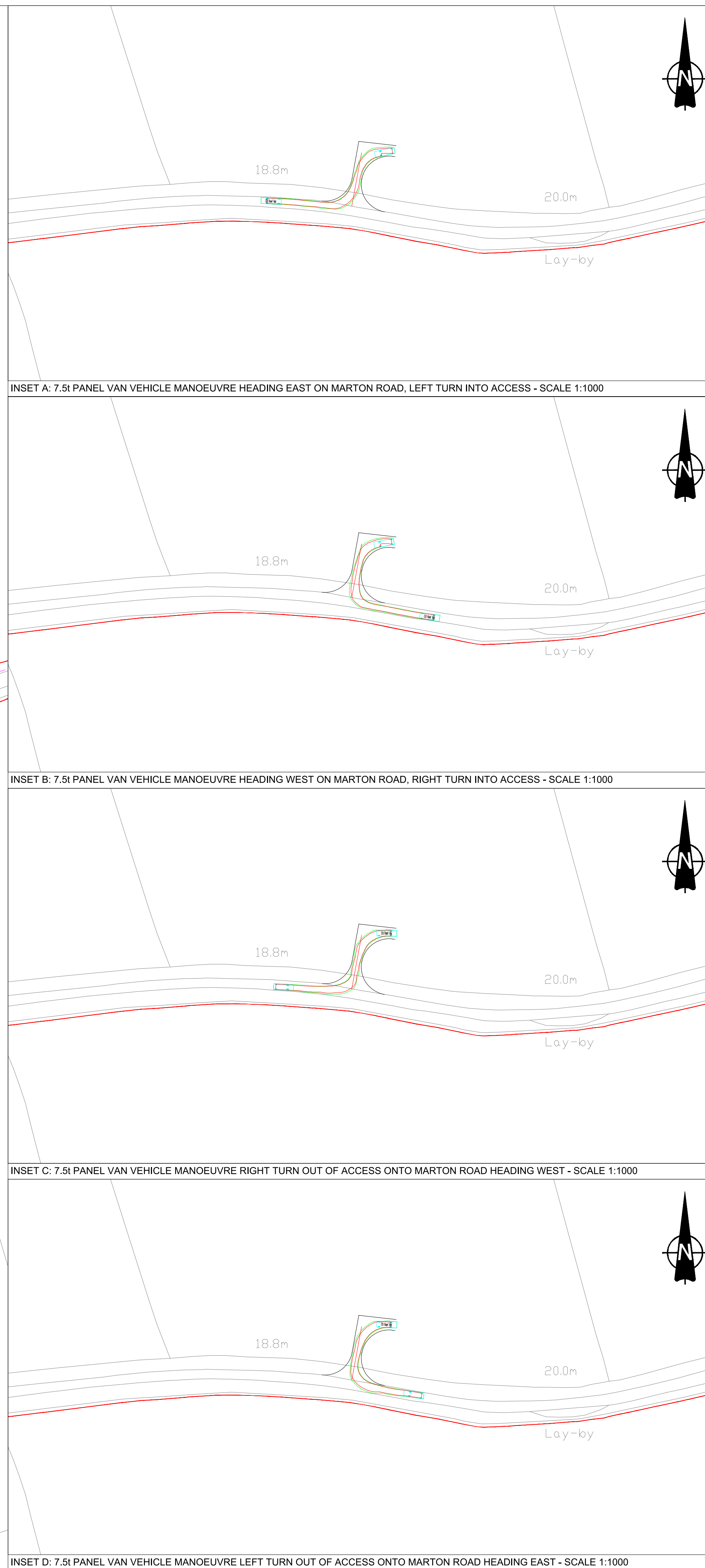
60664324-HGN-DR-CH-0018

MAX LEGAL LENGTH (UK) ARTICULATED VEHICLE (16.5m) MANOEUVRE, OUT OF MARTON ROAD, LEFT TURN ONTO B1241 GAINSBOROUGH ROAD HEADING NORTH- SCALE 1:500

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Marton Road Eastbound Operational Access
 Scale - 1:1000



INSET D: 7.5t PANEL VAN VEHICLE MANOEUVRE LEFT TURN OUT OF ACCESS ONTO MARTON ROAD HEADING EAST - SCALE 1:1000

KEY

- Vegetation to be removed
- Extent of paved area
- Red Line Boundary

7.5t Panel Van

SHEET PLAN

ACCESS LOCATION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P03	05-01-2023	Updated to address review comments
P02	20-12-2022	Updated following internal comments

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